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# FOREIGN PRESS DIGEST

*Soviet Scientists and Scientific Organizations*

29 March 1974  
FPD 0026/74

#### NOTE

This monthly publication contains information on the structure, activities, and personnel of Soviet scientific organizations, as reported from periodicals, books, and newspapers of the USSR. Reporting of events which have been covered adequately in official or public sources is not repeated in this publication.

Items contained in this report are full translation, excerpts, or abstracts as indicated at the beginning of each item.

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# I ACADEMIES OF SCIENCES

## Republics

### 1. USSR

"Commitments of Georgian Academy of Sciences for 1974"

Tbilisi, Zarya Vostoka, 17 Jan 74, p 3

Excerpts: ...In response to the decision of the December (1973) Plenum of the CPSU Central Committee and the address made at it by General Secretary of the CPSU Central Committee Comrade L. I. Brezhnev the decision of the 12th Plenum of the Central Committee of the Communist Party of Georgia, the Appeal of the CPSU Central Committee to the Party and to the Soviet People, and the decision of the CPSU Central Committee and of the Council of Ministers USSR, All-Union Central Trade Union Council, and the Central Committee of the All-Union Lenin Young Communist League, concerning the All-Union Socialist Competition of workers of industry, construction, transportation, and agriculture, for the early fulfillment of the national economy plan, the increase in production, and procurement of the products of agriculture and animal husbandry in 1974, the Georgian Academy of Sciences has assumed new socialist pledges for 1974.

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### USSR

Tbilisi, Zarya Vostoka, 17 Jan 74, p 3

The scientific research institutions of the Academy will complete earlier fulfillment of the planned volume of work for 1974 on 50 themes. The collectives of the institutes will begin earlier elaboration of 20 new themes, mostly of applied significance, approved for the present year. The results of fulfilled scientific research will find application in industry, construction, and agriculture.

Improvement in the coordination of the planning of scientific work and well-organized complex solution of scientific-technical problems by the specialists has become a powerful stimulus for the increase of the effectiveness of scientific research, technological progress, and development of production....

The Institute of Physics will create a small laboratory complex of a neutron generator for controlling the content of silicon, iron, and phosphorus in ores.

The methods for studying geodynamic processes of the high-altitude dam of the Inguri Hydroelectric Power Plant will be perfected at the Institute of Geophysics.

The Institute of Mining Mechanics and the Institute of Applied Mathematics of the Tbilisi State University will carry out theoretical and experimental research on the

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Tbilisi, Zarya Vostoka, 17 Jan 74, p 3

movement of circulating air streams resulting from trains in the Tbilisi subway tunnels. This work will help to improve the ventilation of underground rooms.

The Institute of Construction Mechanics and Seismic Stability will work out recommendations on the control of technological processes and will assist in the introduction into civil engineering of new types of skeleton reinforced concrete constructions....

The Institutes of Cybernetics, Control Systems, Mining Mechanics, Machine Mechanics, and a number of other scientific research organizations have pledged to develop new devices and instruments for various branches of the national economy. There will be developed a special device -- a dispatcher control sensor for the Tbilisi Gas Works and recommendations will be made for mass production of this device. Technical assistance will be rendered to builders of the Zhinvali Hydroelectric Power Plant in the designing and assembly of lock-cum-hydraulic handling system, and to the builders of the Alazani Irrigation Canal in the development of means of complex mechanization of special tunnelling. Cyberneticians will participate in the development of the automated control system.

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Tbilisi, Zarya Vostoka, 17 Jan 74, p 3

In a number of institutes, based on the application of new technology, advanced laboratory facilities will be created. They will help enhance the labor productivity of scientists and experimenters. Institutions of the Georgian Academy of Sciences will render scientific-technical assistance to construction and design organizations and enterprises. A new contingent of civil engineers will receive training through advanced courses in seismically stable constructions.

The Computer Center will work out problems of modeling distribution and specialization of the branches of agriculture.

The Institute of Botany will elaborate and transmit to 30 kolkhozes of Signakhskiy and Tsiteltskaroyevskiy Rayons recommendations concerning rational utilization of pasture lands. To accelerate the introduction of drought-resistant varieties of almond trees, the scientists will supply the workers of Tsiteltskaroyevskiy Rayon and a number of other Rayons of the Republic with the corresponding inoculum and seeds of these plants.

The Institute of Physical and Organic Chemistry will develop a preparation against chlorosis of grapevine and garden plantings and will pass it on to the respective organizations.

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Tbilisi, Zarya Vostoka, 17 Jan 74, p 3

The Institute of Geography will prepare and hand over to the "Chiaturmarganets" Trust recommendations on supplying the population of Chiatur and its manganese mines with water....

...The creative cooperation and scientific relations of the Georgian Academy of Sciences with scientific institutions and organizations of the Academies of Azerbaydzhan, Armenia, and other Republics are being expanded and deepened. Institutes of the Division of Social Sciences will conduct scientific conferences and coordination consultations with scientists of the Transcaucasian Republics on problems of Marxist-Leninist philosophy, the scientific-technical revolution, and fundamental tenets of the developed socialist society. Geologists of Georgia, Azerbaydzhan, and Armenia will work out for Transcaucasia a scheme of the Jurassic deposits. Geographers will hold a conference in Baku on problems of the water balance of Transcaucasia. Biochemists will investigate in Tbilisi, Baku, and Yerevan the ability of assimilation of hydrocarbons and nitrogen dioxide by green plantings.

In 1974, 94 monographs and 87 collections of papers will be published on natural, technical and social sciences. Among them will be: "The Leninist Stage in the Development of the Georgian Social and Political Thought," "The Development of Socialist Agriculture in Georgia." "History of Development of Socialist Competition 5/6

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Tbilisi, Zarya Vostoka, 17 Jan 74, p 3

in Industry in Georgia (1921-1973)," "An Outline of the New History of Georgia," "Struggle of Georgian People Against Foreign Invaders on the Turn of the 14 and 15th Century," and "Automated Control."

In order to strengthen cooperation and render assistance to Republic higher and secondary education, scientists will prepare new textbooks and educational manuals and will organize for students lectures and evening sessions of questions and answers on the subject of social conduct, ethics, and communist morals. The Publishing House of the Academy will publish a series of scientific methodical publications entitled "The Academy of Sciences for Secondary Schools." In 1974 manuscripts of the first issues will be ready.

The Georgian Academy of Sciences has pledged to achieve in the fourth decisive year of the Five-Year Plan further improvement in the effectiveness of the activity of scientific institutions, a greater concentration of the efforts of scientific collectives on the research of fundamental problems, on the realization of most important elaborations contributing to the acceleration of scientific-technical progress, on further strengthening of the connection between science and production, and the enhancement of the effectiveness of various branches of national economy.... 6/6

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2. USSR

"Visiting Conference of the Presidium of the Academy of Sciences Georgian SSR"

Tbilisi, Zarya Vostoka, 20 Oct 73, p 3

Translation: A visiting conference of the Presidium of the Academy of Sciences of Georgia at which the activities of the Batumi Scientific Research Institute and Botanical Garden of the Academy of Sciences of the Republic were discussed was held in Batumi.

The conference was opened by President of the Academy of Sciences Georgian SSR Academician I. Vekua.

Papers were presented by Candidate of Historical Sciences A. Inashvili, director of the Batumi Scientific Research Institute, and Candidate of Biological Sciences N. Sharashidze, director of the Batumi Botanical Garden.

Heard also were talks by Doctor of Historical Sciences A. Robakidze, Doctor of Philological Sciences M. Chikovani, and Candidate of Agricultural Sciences A. Tsitsavidze, deputy director of the Botanical Garden.

The fruitful activity of the collective of the Batumi Scientific-Research Institute in the spheres of ethnography, archeology, and folk-lore were noted in the 1/4

USSR

Zarya Vostoka, 20 Oct 73, p 3

talks. Interesting data concerning the past and present history, culture, life, and customs of the people of the Autonomous Republic of Adzharia were cited. An ethnological atlas of Western Georgia is being compiled. One of the main trends in the activity of the scientists is the study of the oral creativity of the people. They are working also on the urgent problems concerning the future development of the national economy of Adzharia, the introduction of automatic systems of administration in different branches of agriculture and industry, and mathematical methods for use in economic investigations.

Biological foundations of the transformation and rational utilization of the plant world, and the breeding and acclimatization of plants are at the center of attention of the workers at the Batumi Botanical Garden. Here on a territory of over 100 hectares, 5400 species of plants are represented. Scientists have studied the characteristics of a number of plants from Eastern Asia and North America and found plants and bushes useful to the national economy of Adzharia.

The Batumi botanists established broad scientific links with Soviet and foreign botanical and biological establishments with regard to an exchange of seeds, herbs, and special literature.

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Zarya Vostoka, 20 Oct 73, p 3

At the same time a resolution was adopted in which shortcomings in the work of these scientific establishments are pointed out. The quality of scientific investigations must be improved, and the results obtained must be introduced into the national economy with greater energy. The efforts of the scientists must be concentrated on the solution of important complex problems. A necessity to intensify the work of training of skilled scientific cadres is indicated.

The Presidium of the Academy of Sciences Georgian SSR adopted a resolution to create a Botanical-Dendrological Museum at the Batumi Botanical Garden.

An expanded conference of the Presidium of the Academy of Sciences Georgian SSR with the participation of public representatives of Adzharia was held in the session hall of the Adzharia Oblast Party Committee on the same day.

Candidate of Juridical Sciences T. Shavgulidze, deputy chairman of the Supreme Soviet Georgian SSR, in his talk scientifically substantiated the role of public opinion in crime prevention.

Doctor of Historical Sciences M. Dumbadze dedicated his talk to the role of the historian D. Bakradze in the study of the historical past of Adzharia.

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Zarya Vostoka, 20 Oct 73, p 3

Talks at this conference were given by I. Vekua, President of the Academy of Sciences Georgian SSR and A. Tkhalashvili, first secretary of the Adzharian Oblast Party Committee.

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## II MEDICINE AND HEALTH

### USSR

#### 3. USSR

##### "Siberian Horizons"

Moscow, Meditsinskaya Gazeta, 1 Jan 74, p 3

Translation: Siberia of today resounds with ringing echo of the new works being created and with unprecedented enthusiasm of creative labor in the most remote and difficult to live in places. How can we alleviate the task of these creative people for the development of those regions which are destined to become the outposts of the future five-year plans?

The answer to this question is being persistently sought by the collective of the Siberian Department of the Academy of Medical Sciences USSR. In the center of its creative ideas is the creation and realization of the State Program "Adaptation of Man." Siberia is becoming at present an all-union center for the study of this important problem. Here will be coordinated investigations which are now being conducted in various climatic and geographical zones of the Soviet Union: in the north, in the middle belt, in the Alpine region, in the tropics, deserts, and ocean....

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#### USSR

Meditsinskaya Gazeta, 1 Jan 74, p 3

On the eve of the New Year the photocorrespondent took a picture of Head of the Siberian Department, Academician of the Academy of Medical Sciences USSR V. P. Kaznacheyev (on the left) and Leader of the Initiative Group for the Creation of the Model of the Program "Adaptation of Man" S. P. Shurin. Are they satisfied with the past year? Yes. It abounded not only in interesting ideas but also in important achievements. In Noril'sk, for example, was created a special laboratory of "Polar Medicine." There were organized nine complex expeditions which studied the processes of adaptation in natives and newly arrived population of the Taymyr and Ob north. Much was done for the creation of regional programs of the study of medico-biological problems of northern latitudes.

It is expected that 1974 will enhance the daring of Siberian scientists. The leaders of the Department contemplate strengthening creative contacts with scientists of the Siberian Department of the Academy of Sciences USSR, and with various institutes of the Academy of Medical Sciences USSR. Much is intended and much will be accomplished!

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### III ACTIVITIES OF SCIENTIFIC ORGANIZATIONS

#### 4. USSR

"For the Protection of Nature and Rational Utilization of Natural Resources"

Moscow, Priroda, No 7, 1973, p 115

Translation: The Central Committee CPSU and the Council of Ministers USSR adopted an expanded decree "Regarding the Strengthening of the Protection of Nature and Improvement of the Utilization of Natural Resources (Pravda, 10 January 1973). The decree takes into account the opinions expressed by deputies of the Supreme Soviet USSR, fourth session, 8th convocation of the Supreme Soviet USSR held in September 1972, at which the problem of measures for the further improvement of the protection of nature and the rational utilization of natural resources was examined.

The full text of the indicated decree of the Central Committee CPSU and the Council of Ministers USSR is published in the Collection of Government USSR decrees for 1973, No 2, p 6. Measures to be implemented for the purposes of improving the protection of nature and assuring the rational utilization of natural resources, as well as ways of eliminating shortcomings are indicated. Important tasks are confronting the Academy of Sciences USSR along with other organizations. In paragraph 8 of the above decree of the Central Committee CPSU and the Council of Ministers USSR it is stated:

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Priroda, No 7, 1973, p 115

"for the purposes of improving the organization and coordination of scientific research and project-design works with relation to the solution of the most important problems in the area of the rational utilization of natural resources and protection of the natural environment:

a) charge the State Committee for Science and Technology of the Council of Ministers USSR, the Academy of Sciences USSR, the State Planning Commission, the State Committee for Construction Affairs, the Ministry of Health USSR, the Ministry of Agriculture USSR, the Main Administration of the Hydrometeorological Service, and with the participation of ministries and departments USSR, and Council of Ministers of the Union Republics to develop in 1973-1974 a scientific-technical prognosis of possible changes in the biosphere as a result of the development of national economy branches in the next 20-30 years, anticipating in this prognosis measures for the maximum prevention of a negative effect of economic activity on the natural environment; also for the development of scientific investigations securing the solution of the most important problems of the protection of the natural environment and the rational utilization of natural resources.

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Priroda, No 7, 1973, p 115

The Academy of Sciences USSR jointly with the scientific research organizations of the interested ministries and departments is to develop in 1973 a method for the economic evaluation of the manner in which the most important kinds of natural resources are being utilized;

b) arrange that the tasks with regard to the solution of the most important scientific-technological problems bearing on the protection of the natural environment and rational utilization of natural resources are to be segregated in the State Five-Year Plan for scientific-research works and the utilization of the achievements of science and technology in the national economy in a special section (program) "Complex Problems of the Protection of the Natural Environment and Rational Utilization of Natural Resources;"

c) The State Committee for Science and Technology of the Council of Ministers USSR jointly with the Academy of Sciences USSR is to organize in the Committee an Interdepartmental Scientific-Technical Council for the complex problems of the protection of the natural environment and rational utilization of natural resources.

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## 5. USSR

BOBODZHANOV, I., Candidate of Physicomathematical Sciences, head of the Laboratory of Nuclear Physics, Physicotechnical Institute imeni S. U. Umarov, Tadzhik Academy of Sciences

"Pamir Viewed Through the Eyes of Physicists"

Dushanbe, Kommunist Tadzhikistana, 4 Dec 73, p 2

Excerpts:...Elementary particles... The smallest components of the universe. The quest for a deep internal connection between them and the study of the structure of particles and the laws governing their interaction are of fundamental importance. Physicists remember well a dramatic situation not long ago, when it was necessary to revise the previous notions concerning symmetry in the microcosm. Your reflection in a mirror copies you exactly in every way, but in the microcosm the mirror reflection of particles is not identical to the original. This phenomenon, called the nonconservation of parity at weak interactions, means that the right and left directions in this remarkable world of the smallest particles are not equivalent.

Elementary particle physics is also called high-energy physics. The greatest discoveries of nature should be expected from the study of collisions of superhigh-energy particles with nuclei and nucleons. The ultimate end of these studies is the

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BOBODZHANOV, I., Kommunist Tadzhikistana, 4 Dec 73, p 2

creation of a theory of nuclear forces and elementary particles whose significance for science and practice of humanity would be difficult to overestimate.

What then are concrete problems which scientists studying elementary particles are solving at present?....

In the first place we should determine, as precisely as possible, the characteristics of elementary particles themselves: intrinsic mass, charge, lifetime, magnetic moment, quantum numbers, character of interaction with other particles, etc. And, to fathom the internal structure of particles, it is necessary to study the process of the collision of a particle with other particles under such conditions when the interaction between them is especially close and its characteristics will reveal the internal structure of the particle. It is there where superhigh energies are needed.

But existing factual material is not sufficient to create a theory of elementary particles. Experiments are needed at energies exceeding those that can be obtained in modern accelerators. Unfortunately the creation of very large accelerators is connected with two essential difficulties. The first is both technical and economical,

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BOBODZHANOV, I., Kommunist Tadzhikistana, 4 Dec 73, p 2

and the second is of scientific character of principle. It is connected with the possibility of the study of the very structure of particles. One such brilliant possibility for carrying out experiments in the domain of superhigh energies with particles of cosmic rays has been provided to physicists by Pamir.

This is a unique natural laboratory not only for a wide range of specialists, but it is also a unique place for carrying out research in nuclear processes at superhigh energies.

The eastern Pamir with its easily accessible high-mountain regions has long attracted physicists. Let us remember the past; during 1945-1960, at the altitude of about 4,000 meters above sea level on Pamir had been concentrated the efforts of the leading scientists of our country, viz, D. V. Skobel'tsyn, G. N. Flerov, N. A. Dobrotin, and others.

Because of the creation of powerful accelerators in our country and abroad, in recent decades the interest toward cosmic rays diminished and all main forces of scientists were concentrated on carrying out scientific work in laboratories. However, for the time being, and still for the two next decades, none of the existing or

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BOBODZHANOV, I., Kommunist Tadzhikistana, 4 Dec 73, p 2

prospective particle accelerator can compete with natural sources of high-energy particles, viz., cosmic rays.

In the Soviet Union now a series of experiments studying nuclear processes at superhigh energies with use of aircraft at altitudes of about 7,000 meters above sea level. The results obtained provided new information to characterize nuclear interactions at superhigh energies. However the limited area for the facility and shortness of exposure do not permit us great statistical accuracy to make conclusions concerning new phenomena....

Soviet scientists S. A. Slavatskiy and Yu. A. Smorodin have proposed a new experiment on Pamir at the altitude of about 5,000 meters above sea level. The project was worked out by N. A. Dobrotin, V. Am. Maksimenko, S. A. Slavatskiy, and Yu. A. Smorodin. The idea of the experiment is as follows -- as a target, in which the interaction of adrons of cosmic rays takes place, serves a layer of air at the altitude from 100 to 1,000 meters over the facility. An emulsion camera, composed of the alternate layers of lead, carbon, and X-ray film, records the secondary particles formed as a result of the interaction in the air over the camera.

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BOBODZHANOV, I., Kommunist Tadzhikistana, 4 Dec 73, p 2

With the unit assembled in 1971 by scientists of the Physicotechnical Institute imeni Umarov of the Tadzhik Academy of Sciences and the Physical Institute imeni I. N. Lebedev of the Academy of Sciences USSR, the events occurring at superhigh energies were recorded. In 1972 scientists from Tadzhikistan, Georgia, and Moscow have expanded the area of the facility to 120 square meters, from which in the present year the material was obtained which is being now processed.

The present year was very successful for physicists. Large scientific research institutes of Moscow, Georgia, Kazakhstan, and Tadzhikistan assembled a unit with an area of more than 400 square meters. This is a unique facility with no equal in the world.

With the use of this unit it is being planned to record nuclear interactions at superhigh energies, which will provide new information concerning the character of nuclear interactions at such energies.

Recently scientists of Physicotechnical Institute of the Tadzhik Academy of Sciences, Candidate of Sciences F. Normuradov, aspirant Z. Azimov, scientific

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DODODZHANOV, I., Kommunist Tadzhikistana, 4 Dec 73, p 2

associate N. Skurehinskaya, and Kh. Abdurakhmanov, together with scientists of various institutes of Moscow, Georgia, and Poland, have presented the scientific results obtained this year at the All-Union Conference on Cosmic Rays held in Khar'kov. The report, which assumed basic importance at the conference, gave results of investigations of scientists of six institutes that worked on Pamir, including our physicists.

Investigations of nuclear interactions at superhigh energies on Pamir remain in the center of attention of the Soviet scientists.

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6. USSR

ZHUKOV, M., Corresponding Member of the Academy of Sciences USSR, deputy director of the Institute of Thermophysics, Novosibirsk

"A Call for Acceleration of Industrial Realization of the Results of Scientific Research"

Moscow, Izvestiya, 5 Jan 74, p 1

Translation: Having noted great achievements in all fields of our national economy, the CPSU Central Committee calls upon the Nation to mobilize the efforts and knowledge for the advance fulfillment of plans for 1974. The scientists are ready to answer this call by deeds.

The Institute of Thermophysics, as well as the other collectives of the Siberian Department of the Academy of Sciences USSR, in the past year has accumulated a great many scientific elaborations. This is gratifying, but it also imposes a high responsibility. We consider it to be our duty not only actively prosecute fundamental research but also pay special attention to the introduction into production of the results of the fulfilled works, which in the near future will yield a high economical effect.

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ZHUKOV, M. Izvestiya, 5 Jan 74, p 1

Let us consider, for example, our research on low-temperature plasma. The accelerated introduction of its results into industrial use will make it possible to sharply speed up chemical processes, improve technology of melting metals, and obtain new metals and alloys with valuable properties. Researchers of the Institute of Thermophysics have found an inexpensive and effective method to protect ground plots from freezing for their subsequent working up under winter conditions. This constitutes a real contribution of our scientists to the as rapid as possible fulfillment of plans for 1974 and the improvement of the effectiveness of production.

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## 7. USSR

ANDRONIKASHVILI, E. L., Director of the Institute of Physics, Academy of Sciences Georgian SSR

"Mtskheta -- Center of Physicists"

Moscow. Pravda, 18 Dec 73, p 3

Translation: A huge center of the Institute of Physics of the Academy of Sciences Georgian SSR has grown in the vicinity of Mtskheta -- the ancient capital of Georgia. At the request of G. Lebanidze, "Pravda" correspondent, E. L. Andronikashvili, director of the Institute of the Academy of Sciences of the Republic, related how the atomic reactor is being utilized for studying highly varied branches of science.

"The vast cycle of works being carried out at the nuclear center of the Institute of Physics," said E. L. Andronikashvili, "is dedicated to the so-called activated analysis. This is a relatively new branch of elementary analysis for the study of the composition of a substance, and is based on the fact that a substance irradiated by neutrons becomes synthetically radioactive, emitting gamma rays the spectral composition of which is recorded by highly sensitive instruments. No other type of analysis is able of revealing that which is revealed by the neutron activated analysis.

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ANDRONIKASHVILI, E. L., Pravda, 18 Dec 73, p 3

In other cases it makes it possible to detect the presence of a single atom admixture among a million millions of atoms of a basic substance.

We are utilizing the nuclear activated analysis for microchemical investigations of living matter. The utilization of this analysis at a biomacromolecular level, i.e. for the investigation of highly purified preparations of different proteins and nucleic acids, makes it possible to discover many regular conformities. Let us take such a disease as cancer as an example. Investigations conducted by the group of our associate L. M. Mosulishvili established that the development of the disease is accompanied by a highly noticeable change in the quantity of trace elements in molecules extracted from cancerous tissues: the quantity of some trace elements is considerably increased, of others -- sharply decreased.

This work is being carried out at Mtskheta jointly with scientists of Harvard University (USA) who became interested in our methods and sent us valuable specimens of proteins and nucleic acids related to different types of leukemic diseases. We are attempting to discover the finest microbiological differences between molecules of identical proteins and identical DNA obtained from the blood cells affected by different forms of blood cancer.

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ANDRONIKASHVILI, E. L., Pravda, 18 Dec 73, p 3

What then is the interest in protein and nucleic acid macromolecules from the point of view of physics?

First of all that molecules of the living world are so large that each one of them it seems should be regarded as a granule of a smallest crystal. But this is not all. At the dawn of the development of molecular biophysics E. Shredinger determined the biomacromolecule as being as aperiodic crystal. This indicates that each atom in the crystal as well as in the biomolecule occupies a strictly definite position. However, if in normal crystals the position of the different atoms is periodically repeated a numerous number of times, then in the macromolecule each atom is always individually positioned.

Biomacromolecules, proteins and nucleic acids, melt when the temperature is raised. As a result of this process the melted protein and nucleic acid molecules lose their biological activity. Plainly speaking -- they die.

A highly sensitive instrument known as the scanning differential microcalorimeter was developed in our Institute. The instrument makes it possible to measure the quantity of heat necessary to kill a living molecule. At the same time investigations

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ANDRONIKASHVILI, E. L., Pravda, 18 Dec 73, p 3

of the water layer which surrounds the biomolecule were conducted. What exactly is the structure of this layer? Not long ago O. M. Mavlishvili - an associate at our Institute together with his colleagues, studied a collagen protein from the point of view of its interaction with water. Using the methods of nuclear magnetic resonance and the microcalorimeter it was established that in the aperiodic crystal collagen molecules in a definite as well as non-periodic order are intercalated with molecules of water which forms with the protein a new aperiodic crystal which differs in its structure from the dehydrated collagen and then from the water.

Our next task is the study of hydrocollagenous molecules when extracted not from normal but cancerous tissue. Definite prerequisites for such investigations are available inasmuch as was already stated the fine changes which take place in the microelemental composition of cancerous molecules have been determined.

I spoke only of the work conducted at the Institute and its nuclear reactor in the area of biophysics. But the reactor is being also actively utilized for other purposes. Thus, there is, for instance the Department of Low Temperature Radiation of Material Science led by deputy director of the Institute I. A. Askidashvili, where the effect of radiation on the physical properties of many metals and alloys is studied. The study of superconductors i.e. metals which conduct an electric current

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USSR

ANDRONIKASHVILI, E. L., Pravda, 18 Dec 73, p 3

without losses has been recently begun. In other words, the conditions under which the first signs of electric resistance will appear in superconductors as a result of irradiation will be investigated.

"Pravda" already reported that Georgian physicists are now participating in the development and construction of so-called radiation circuits capable of transforming neutron energy into gamma ray energy. These circuits are widely used in radiation chemistry, particularly for the purpose of improving wood cellulose, sterilization of medical instruments, food, etc. A decision was adopted to start using our operating reactor during the current year for the purpose of improving the radiation methods used to modify parquet wood panels on a semi-production scale.

As you see our nuclear reactor is playing an important role in the life of the Institute. At the same time investigations in different areas of science -- physics, biology, and radiation chemistry -- can be poorly accommodated in the framework of a single reactor. Even samples of the same material irradiated at temperatures of liquid nitrogen or liquid helium become incompatible with each other. In this connection a new type of reactor has been developed under the guidance of Deputy Director of the Institute G. I. Kiknadze this year. Its construction with the use of our own means has already been begun.

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ANDRONIKASHVILI, M. L., Pravda, 18 Dec 73, p 3

It differs in the respect that it has three active zones -- each zone for its own purposes. It is as if there were three nuclear reactors with a common water supply, common ventilation system, common automatic regulatory system, etc. The up to 200 specialists who participated in the All-Union School for exchange of experience in the areas of physics and technology of nuclear reactors recently conducted in Georgia displayed interest in the idea of a trizonal reactor.

The wide range of the exciting tasks requires considerable efforts on the part of the collective. On the eve of the approaching holiday -- the 250th anniversary of the founding of the Academy of Sciences USSR -- the collective is full with decisions to increase the efficiency of scientific research. Not long ago we have adopted a new Socialist obligation, and are calling on all scientific establishments of the Republic to mark this important event with considerable creative achievements.

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# 8. USSR

Prof BORISOV, V. M., Doctor of Technical Sciences, director of the Scientific Research Institute of Fertilizers and Insect Fungicides imeni Prof Ya. V. Samoylov (NIUIF)

"Fertility Vitamins"

Moscow, Vechernyaya Moskva, 11 Dec 73

Translation: We are continuing our journey on Leningrad Prospekt, the street of science. Today, dear reader, we shall visit the Scientific Research Institute of Fertilizers and Insect Fungicides imeni Ya. V. Samoylov (NIUIF). Doctor of Technical Sciences Prof V. M. Borisov, director of the Institute, talks to our correspondent about the new types of fertilizers.

From times immemorial the single word crops has been ruling agriculture. And although the fields of today have become two-three times more productive than they were half a century ago, the problems of the yield of farm crops and the increase of their nutritional value are continuing to worry farm workers as well as scientists. The earth was and is remaining the main source of products of nutrition. And it requires all types of care: supplements in the form of food plants and fertilizers are needed.

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During the past few years scientists have come to the conclusion that the yield of growing crops can be substantially increased if new types of complex fertilizers containing rarely used substances in addition to the traditional elements -- nitrogen, potassium, and phosphorus -- will be created.

Agrochemistry is by far not a mathematical science. In order to arrive at the necessary ratios of chemical elements in the fertilizers, the investigators working in the experimental fields had to resolve a system of equations with many unknowns. Consideration was given to different soils prevailing in the huge territory of our country, the large variety of crops grown, and climatic conditions. And then interesting results began to appear. For instance, molybdenum, a fairly rare element when added to fertilizers considerably increased the yield of clover. While by adding table salt -- sodium chloride -- to fertilizers scientists succeeded in increasing the sugar content of sugar beet, no matter how strange it seems. At sugar beet farms where the new sodium containing fertilizers are used, a sweeter sugar beet is gathered, while the yield of sugar beet per hectare is increasing with each passing year.

More surprising results were attained by scientists when magnesium was added to fertilizers. From ancient times it was considered that sandy soils and high crop

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yields are an incompatible concept. Even copious irrigation and intensified fertilizing did not make it possible for plants to manifest their growing power. And then our Institute's scientists by adding magnesium to the usual fertilizers increased the yield of grain crops grown in the experimental sandy soils of Lyuberetskiy Rayon of Moscow district by 8-10 tons a hectare. Another interesting property of magnesium was discovered by the scientists. The element not only improved, for instance, the taste of apples, but imparted to them bright and attractive colors.

During the past few years it became possible to purchase green onions, fresh cucumber, and tomatoes in Moscow shops throughout the entire year. In order to attain a considerable increase in the yield of hothouse crops the scientists had to create a new type of fertilizers. The difficulty in the developing of these fertilizers was due to the fact that all the necessary elements required by the plants had to be concentrated in a single crystal. The original type of these fertilizers was named Rastvorin by its authors i.e. scientists of our Institute and specialists of the NIUIF plant. This universal chemical compound is being successfully used as a supplement food for vegetable crops grown at the Belaya Dacha, imeni M. Gor'kiy, and Moskva sovkhoses in the Moscow district.

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It is not sufficient, however, to develop a new type of fertilizer; it is necessary also to produce it in adequate quantities, and this is the task on which our scientists are now also working. A constant search for new technological processes which will make it possible to develop new powerful chemical compounds is in progress in laboratories and departments. Numerous technological and economic problems of ecology are being solved. Particularly helpful in this respect is the net-like system of scientific activities adopted at the Institute. It made possible the solution of many complex problems simultaneously confronting all specialists.

The results were not slow in appearing. Several years ago when scientists were working on the problem of developing a superphosphate, a period of ten years lapsed from the time they began to develop the compound to the time of its entry into production. With the use of the net-like method of planning all work involved, it required only three years to develop ammophos, a new modern type of fertilizer, and to build a plant for its production.

Many are the varied problems which have to be solved by the Institute's scientists. One of them is the chemization of animal husbandry. It has long been established that chemistry is not only capable of supplementing the deficiency of vegetable protein and phosphorus in the organism of animals, but is able also actively to form

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enzymes, hormones, and vitamins in the organisms. Experimenters are now testing different mineral supplements thanks to which the production of milk and wool is increased and the quality of meat and milk is improved.

A considerable increase in the production of mineral fertilizers is anticipated in the directives of the 24th CPSU Congress. Considerable changes will take place also in their composition. Intensive work to develop a mixture of fertilizers which will not react with the soils thereby retaining the valuable elements which serve as supplements for plant food is now in progress. Some types of such substances have already been developed.

The scientists are continuing their search. Their objective is to create chemical compounds which in general will not be lost in the soil, but will yield all their strength in order to obtain larger harvests.

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9. USSR

MEDVEDEV, A.

" al Information in the Soviet Union"

Moscow, Meditsinskaya Gazeta, 1 Mar 74, p 4

Abstract: The USSR Medical and Medical-Technical Information Research Institute, directed by Prof Yuriy Lisitsyn, is responsible for registering over 2,000 foreign journals received annually and extracting information of possible interest to medical scientists, engineers, physicians, and pharmacists. The Department of Preliminary Processing of Literature and Bibliographic Information registers incoming literature while the Department of Scientific Problems of Medicine and other departments prepare material for "Medical Sciences and Technology News" and "Express Bulletin" as well as other scientific surveys. Also intensive bibliographic information is kept to provide indices of domestic and foreign medicine information and advances.

Now the Institute is planning a single scientific medical information system for socialist countries. Specialists from Bulgaria, East Germany, and other countries are participating in this planning.

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10. USSR

SOMINSKIY, V., Doctor of Economic Sciences, Leningrad

"Improve the Work Standard of Scientific-Production Associations"

Moscow, Pravda, 27 Nov 73, p 3

Translation: The purpose of the existence of scientific-production associations (NPO) can be expressed in two words -- speed and efficiency. Speed indicates the necessity to reduce in every way possible the periods between development and industrial mastery of a new technology. Hence, the first criterion of evaluation is the time period in which an investigation-production process is accomplished as compared with norms established for the creation and mastery of a given type of technology at the level of the best native and world achievements. True, as yet there are no such norms, and their establishment is not easy, for the highly gratifying fact of the reduction of these periods in itself does not make it possible to judge the efforts exerted by the NPO collective and the significance of the obtained results. Without norms it is difficult to validly plan for the duration of the investigation-production process and its control.

Efficiency, the other criterion of evaluation is more complex. In its general concept efficiency is commensurability of expenditures with the results. What then

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constitutes the expenditures under NPO conditions where organizations differing in their economic circumstances are associated? The scientific research institute a component of NPO, is funded by a ministry, and on the basis of economic agreements with industrial enterprises, the design bureaus and technological organizations obtain their funds from the same source. Only in a few of the NPO are the expenditures connected with design technological developments charged to the cost of production.

At first glance, it is not possible to commensurate expenditures which are so different in character. But this is only true at first glance. As a result of theoretical analysis and experimental computations carried out by the Leningrad Department of the Economics of Scientific Research and Experimental Works (LOENIOR), jointly with specialists of other organizations, it was proven that it is possible to calculate the so-called mentioned expenditures for the entire association. All types of expenditures connected with the development, preparation for production, and execution of the new technology are incorporated under NPO conditions.

These mentioned expenditures must be commensurable in our opinion, first of all, with the results obtained by the branch in which NPO is responsible for technical progress, and secondly with the results obtained by the NPO from the realization of

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SOMINSKIY, V., Pravda, 27 Nov 73, p 3

its product. Both of these values are fully commensurable and should algebraically coincide. The growth of profit will be the concrete expression of the result attained by the branch in which the results of the developments accomplished by the subdivisions of NPO are applied, by the enterprises which are components of the scientific-production association, and by the consumers of the product manufactured by these enterprises. Thus, the total result of NPO work will be rightly judged from the point of view of profit, while efficiency -- from the point of view of the ratio of total profit to the indicated expenditures.

There are, of course, many other criteria which may and should be used to evaluate the work of NPO. Among them is the specific weight of the product as it relates to the highest category of quality, labor productivity and material content of the product, and a number of other characteristics recognized in industry. Obviously, these criteria must be higher than those in other branches of industry, for NPO is called upon to play the unique role of a standard of organization and economy.

Special attention must be given to the evaluation of the activity of the association: scientific-technical potential created in the association, i.e. the combination of the fulfilled and prepared for realization scientific developments, fixed scientific

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informational fund, fund for the ASU [Automated Control Systems] program, and a number of other components. The higher the scientific-technical potentials, the greater will be the efficiency of the work of NPO in the near and long range future. The works done by P. A. Kul'vets (Lithuanian SSR) jointly with LOENIOR proved the practical possibility of a quantitative determination of a scientific-technical potential and its utilization in planning.

The evaluations of which we spoke are called upon to serve also for the proper distribution of means allocated for the economic stimulation of the collective. Under NPO conditions it becomes possible to evaluate in complex the over-all volume of work, from the origin of an idea to its embodiment in production, and determine the norm for the duration of its fulfillment. Funds for economic incentive will be distributed in accordance with expenditures for labor. A collective form of payment for work to participants in the creation and mastery of the new technology can be developed on the same basis. Such computations have been carried out by specialists of "Pisheproavtomatika" scientific-production association and LOENIOR. All that is necessary for efficient internal cost accounting computation is available in the association.

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SOMINSKIY, V., Pravda, 27 Nov 73, p 3

In our opinion it is incorrect to retain the juridical independence of the organizations and subdivisions which are components of NPO. The association must be the only legitimate unit. And this was indeed the case with "Plastopolymor" Association. Unfounded also is the prevalent to this day division of the economic stimulation funds between the association's organizations. Only common funds should exist. And, finally, the time has come for a radical reexamination of the conditions of payment for labor and the economic incentive of NPO workers with the idea of equalizing such payments regardless of, let us say, whether a designer is located at an institute or at a KB [design bureau] of the same association. As yet payment to many workers for equal work of the same association noticeably differs.

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#### IV CRITICISM AND COMMENTARY

##### 11. USSR

UTYAMYSHEV, R., chief metrologist of the Ministry of Health USSR and director of the All-Union Scientific Research and Experimental Institute of Medical Technical Equipment, and PISKAREV, V., head of the Chief Metrologist's Laboratory.

"Role of Metrology in Medicine."

Moscow, Meditsinskaya Gazeta, 31 Aug 73, p 3

Translation: The material-technical base of Soviet public health is evermore being strengthened. Establishments, beginning with the scientific research institute and ending with the rayon hospital, are constantly being supplemented with different and at times highly complex technical equipment. Methods of investigations, diagnostics, and treatment are evermore in need of quantitative indicators characterizing the condition of the organism. The necessity to secure the accuracy of all types of medical measurement is therefore growing. The complex apparatuses require serious study, skill in application, and quality servicing, as well as timely repair and checking, for without these it is not possible to guarantee the reliability and harmony of the measurements.

However an analysis of the condition of the facilities and organization of metrological servicing in medical establishments reveals that they are not at their  
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##### USSR

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proper level. This leads to diagnostic errors and also lays the ground for the irrational expenditure of funds allocated for the equipment.

The chief metrologist's office of the Ministry of Health USSR, an office created at the All-Union Scientific Research and Experimental Institute of Medical Technical Equipment, is engaged in organizational work on a country-wide scale and supervises the manner in which the rules established for metrology, the control of checking, repair, and exploitation of the measurement instruments used in Medicine are being observed. The office is confronted with the task of solving problems connected with the development of scientific foundations of medical metrology, preparation of instructions for checking the instruments, securing the accuracy of the measurements, and improvement of the condition of the technical equipment.

These problems are even more complex for the reason that for a long period of time medical instruments were not regarded as means of measurement. Therefore the development of checking methods was not required at the time the instruments were manufactured, with the result that most of the instruments now in use for biomedical measurements are not provided with documents indicating their norms and means of control. The technical base is inadequate, and there is a lack of skilled technical specialists. The complex equipment is for most part serviced by nurses, and experience  
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shows that they do not always cope with the task in a satisfactory manner.

The inadequate control of the reliability and harmony of the measurements results also in a low accuracy when used also in clinicochemical analyses. Thus, inter-laboratory errors in determining hemoglobin exceeded those of intralaboratory by 3.3, sugar -- by 2.8, and cholesterol -- by 3.6 times, according to data of the All-Union Scientific Research Center of Standards. This once more emphasizes the importance of the metrological service.

The initial steps have already been taken. Regulations bearing on the department of metrological service of the Ministry of Health USSR and a plan for basic organizational-technical measures for the development of the service have been developed. Documents for the development of checking measurement instruments, based on metrological expertise, are being prepared.

Strict adherence to standard instruments with provision of methods for checking is demanded when new technical equipment is being produced. The metrological accuracy of the existing instruments is being analyzed. The development of methodical instructions for checking mass-applied instruments used for biomedical measurements has begun. The trend of investigations with regard to the creation of calibrating devices, simulators, and physical equivalents (phantoms) is being studied.

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The first working conference of chief metrologists of the Ministries of Health of the Union Republics and the Academy of Medical Sciences USSR was recently held. The fact was confirmed that the repair bases for medical technical equipment are not adequately provided with a necessary part of standard apparatuses, while the number of technical specialists on the staff lists does not meet the modern needs. The repair enterprises have no exchange fund, are poorly supplied with spare parts, and have few portable shops and laboratories.

The time has come when it is necessary to recruit personnel for the organization of a complete metrological service in public health, and particularly in engineering.

In most of the establishments and enterprises of the Ministry of Health USSR people responsible for the condition of the measurement instruments are appointed. Frequently, however, these people are subordinate to assistants of an administrative-economic section. This limits and reduces the efficiency of their work. Therefore, regulations concerning the department of metrological service place these people in a position of being subordinate to the assistant of the head of scientific work, and at enterprises -- the chief engineer.

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The office of the chief metrologist in cooperation with the organs of State Standards USSR regularly conducts inspections of the facilities for metrological servicing of measurement instruments used in establishments, checks the conditions of the exploitation of the medical technical equipment, the quality of storage facilities, and the timely repairs and checks.

The results indicate that in some of the establishments the checking schedule is not fulfilled, and the number of unchecked instruments in the park equals about 50%. In many places inspection of non-standard apparatuses has not as yet been organized, no account of the time the measurement instruments are used in the process of their exploitation is kept, and the technical equipment is stored in unsuitable storage places, with the result that frequently the instruments brought from storage are unsuitable for use.

The inspection of 10 Moscow institutes conducted by the organs of State Standards at the end of the past year serves as an example. The metrological reliability in most of them was found to be unsatisfactory; this was particularly intolerable with regard to the instruments for functional diagnosis, clinicochemical and laboratory analyses, and instruments regulating vitally important functions of the organism. Particularly lagging are such as the Scientific Research Institute of Water Transport 5/7

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UTYAMYSHEV, R., et al., Meditsinskaya Gazeta, 31 Aug 73, p 3

Hygiene, the Central Scientific Research Institute of Epidemiology, and the Moscow Scientific Research Institute of Virus Preparations. Control checks carried out in April of this year revealed that not in all of the institutes has the situation as yet improved.

The heads of a number of organizations which are within the jurisdiction of the Ministry of Health USSR pay no attention to this important work, do not deal with the problems of timely checking and correctness of usage of the measurement instruments, all of this leading in the final analysis to serious errors.

It must be mentioned that most heads of the establishments are taking steps to alleviate the situation.

A serious problem is the checking of built-in electric meter indicators and instruments for measuring pressure in vacuum; there are large numbers of these in medical establishments. Inactive periods of these instruments will be curtailed with the solution of this problem. It is advisable to organize checks of these at their sites, and create also exchange funds. This is of particular importance for Moscow and other large cities where many of the leading institutes are concentrated. A 6/7

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service which is engaged in checking and marking built-in electric meter indicators at the site of their exploitation is already operating in Moscow. The sphere of its activities, however, should be in every possible way expanded.

Problems concerning the creation of large base laboratories equipped with unique optical instruments, points where they may be rented, etc. are waiting their solution. It is essential that specialists -- medical equipment workers, medics, and specialists of other branches of science and technology should be involved in the development of standard apparatuses, stands, standard models, physical equivalents, and other special apparatuses for checking biomedical measurement instruments.

The complexity and importance of the problems connected with the task of securing a harmonious and coordinated activity of all of the metrological services in the Ministry of Health USSR, and controlling the application of the technical equipment and the harmony and accuracy of the measurements in medicine require the combined efforts of all of the organizations of the Ministry of Health USSR, Ministries of Health of the Union Republics, Academy of Sciences USSR, Association of Medical Technicians, and also the help of State Standards USSR.

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12. USSR

"Rural Physicians"

Moscow, Sel'skaya Zhizn', 18 Nov 73, p 1

Abstract: Quoting a few examples of highly devoted rural physicians, representing thousands of enthusiasts of rural medicine many of whom have been awarded medals and honorary titles, the article stresses the fact that in recent years the state of public health services in rural areas was greatly improved thanks to the construction of many new hospitals, polyclinics, and ambulatoriums, and providing them with modern medical and laboratory equipment and the necessary medicaments. Therefore, the public health organs and rural physicians are making good progress in narrowing differences between medical care in the cities and in the countryside.

There is, however, a need for the corresponding professional growth. The experience of Kaliningradskaya, Vinnitskaya, and L'vovskaya oblasts, where much attention is being paid to the improvement of qualifications of rural physicians and to drawing them into scientific work, should be followed. The contacts of rural physicians and hospitals with individual scientists and medical institutes should be given utmost encouragement. Professional stagnation must be prevented at all costs. Party organizations at medical institutions should instill into each of their members the spirit of creative quest, constant self-improvement, and responsibility for their work.

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Sel'skaya Zhizn', 18 Nov 73, p 1

Since in a number of districts there is a fluidity of cadres, the older physicians should persistently impart their experience to the younger ones.

It is also highly important to ensure adequate living conditions for rural physicians. In some villages of Mogilevskaya, Cherkasskaya, and Tashkentskaya oblasts many physicians are compelled to fend for themselves for long periods of time. Some managers of kolkhozes and sovkhoses even neglect to provide the families of physicians with fuel. This results in some cases where a specialist tries to leave his job right after beginning work. The Party organs should radically change this situation and require responsible managers and executive committees to ensure preferential treatment to rural physicians.

The solution of the problem of rural medical cadres may be greatly helped by encouraging the rural youth to enter medical profession. In the current year over 40% of the entrants in medical institutes are boys and girls from the countryside. It is likewise most important to bring about complete mutual understanding and confidence between rural physicians and managers of kolkhozes, sovkhoses, and executive committees of local Councils of Workers' Deputies.

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V AWARDS, CONTESTS, APPOINTMENTS, and PERSONALITIES

13. USSR

"Competitive Contest for Lenin Prizes"

Moscow, Izvestiya, 16 Feb 74, p 2

Translation: The Committee for Lenin and State Prizes USSR for Science and Technology under the Council of Ministers USSR announces that the following works are accepted for participation in the competitive contest for Lenin Prizes of 1974:

1. Abov, Yu. G., Kropchitskiy, P. A., Lobashev, V. M., Nazarenko, V. A., and Shapiro, I. S. "Experimental Discovery and Investigation of Non-Conservation of Space Parity in Nuclear Electromagnetic Transitions." (series of works).

Submitted by the Physicotechnological Institute imeni A. F. Ioffe of the Academy of Sciences USSR; the Leningrad Institute of Nuclear Physics imeni B. P. Konstantinov of the Academy of Sciences USSR; and the Institute of Experimental and Theoretical Physics.

2. Alistratov, L. I., Beresnev, B. I., Galkin, A. A., Konyayev, Yu. S., and Maksimov, L. Yu. "Formation of Physico-Technological Foundations of Hydroextrusion." 1/6

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Izvestiya, 16 Feb 74, p 2

Submitted by the Donetsk Physicotechnological Institute of the Academy of Sciences Ukrainian SSR and the Institute of Physics of High Pressures of the Academy of Sciences USSR.

3. Keldysh, L. V. "Cycle of Theoretical Works on Physics of Semiconductors (Tunnel Effect, Semiconductors in Strong Electric Fields, Multiphotonic Processes in a Solid Body.)"

Submitted by the Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR and the Physics Faculty of Moscow State University imeni M. V. Lomonosov.

4. Prokoshkin, Yu. D., Denisov, S. P., Dunaytsev, A. F., Kut'in, V. M., Nikitin, V. A., and Savin, I. A. "Experimental Investigations on the Accelerator of the Institute of High Energy Physics which led to the Establishments of New Properties of Strong Interactions in High Energies (Serpukhov effect in full Cross Section, Compression of the Conus, dispersion of Protons, etc). (series of Works).

Submitted by Institute of High Energy Physics.

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5. Kirsanov, A. V. "Investigations in the Sphere of Organophosphorus and Organosulfur Compounds." (series of works).

Submitted by the Institute of Organic Chemistry of the Academy of Sciences Ukrainian SSR.

6. Bolov, N. V. "Essays Concerning Structural Mineralogy." (Cycle of works).

Submitted by the All-Union Scientific-Research Institute of the Synthesis of Mineral Raw Materials.

7. Shpil'man, I. A., Istomina, I. Ya., Maksimov, S. P., Mikhaylenko, A. A., Ovcharenko, A. V., and Cherepakhin, S. D. "Discovery and Accelerated Exploration of the Orenburg Gas Condenser Formation."

Submitted by the Orenburg Oblast Committee CPSU.

8. Astaurov, B. L. and Strunnikov, V. A. "Development of Methods of Sexual Control, Propagation, and Development of the Mulberry Silkworm; Their Significance for the Theory of Heredity and Practical Sericulture."

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USSR

Izvestiya, 16 Feb 74, p 2

Submitted by the Institute of the Biology of Development of the Academy of Sciences USSR.

9. Oparin, A. I. "Cycle of Works Concerning the Creation of the Materialistic Theory of the Origin of Life."

Submitted by the Institute of Biochemistry imeni A. N. Bakh of the Academy of Sciences USSR.

10. Mints, I. I. "History of the Great October," a monograph in three volumes. Vol 1. "Overthrow of the Autocracy," 1967; Vol 2. "Overthrow of the Provisional Government and the Establishment of the Dictatorship of the Proletariat," 1968; Vol 3, "Triumphant March of Soviet Power," 1973.

Submitted by Institute of History of the Academy of Sciences USSR.

11. Nesterov, A. I. Tareyev, A. M. and Strukov, A. I. "New Data in the Investigation of the Pathomorphosis, Clinical Picture, Diagnostics, Treatment, and Prophylaxis of Rheumatic Diseases." (series of Works).

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Izvestiya, 16 Feb 74, p 2

Submitted by the Scientific Research Institute of Rheumatism of the Academy of Medical Sciences USSR.

12. Timakov, V. D. and Kagan G. Ya. "Cycle of Investigations "Role of L-Form Bacteria and Family of Mycoplasmas in Infectious Pathology," published in three monographs in 1961, 1967, and 1973.

Submitted by the Institute of Epidemiology and Microbiology imeni N. P. Gamaleya of the Academy of Medical Sciences USSR.

13. Arzhanov F. G., Grayfer, V. I., Zaytsev, Yu. V., Karibskiy, V. V., Sinelnikov, A. V. and Shashin, V. D. "Reequipping of the Petroleum Extracting Industry on the Basis of the New Technical Decisions and Complex Automation Securing High Tempos of the Development of the Industry."

Submitted by the Ministry of the Petroleum Industry and Ministry of Instrument-Building, Means of Automation, and Control Systems.

14. Aleksandrov, A. P., Semizorov, N. F. Yoremoyev, D. V., Stupin, Ye. N., Tsvirko, M. S., and Sadardinov, Z. S. "Formation of an Industrial Complex of Buildings  
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Izvestiya, 16 Feb 74, p 2

and Equipment of the Volzhskiy Automobile Plant imeni Semicentennial of USSR."

Submitted by the Ministry of Energy and Electrification USSR.

The titles of the works and author's collectives are published as submitted without changes. In publishing the list of works accepted for participation in the contest for Lenin Prizes 1974, the Committee is requesting the Soviet public to express its opinion regarding the content of these works and the personnel of the authors' collectives.

The Committee is asking the heads of scientific and scientific-technical societies, scientific establishments, enterprises, and schools of higher education to organize public discussions of the indicated works and authors' collectives.

Responses and remarks and also materials of public discussions are to sent to the Committee to 20 March of this year at the following address: 103051, Moscow, K-51, Neglinnaya Ulitsa, don 29/14.

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14. USSR

Academy of Medical Sciences USSR

"Medical Works Contending for Prizes of the Academy of Medical Sciences USSR"

Moscow, Meditsinskaya Gazeta, 8 Jun 73, p 4

Translation: The Presidium of the Academy of Medical Sciences USSR makes known that in accordance with the announcement in "Meditsinskaya Gazeta" no 86 of 27 October 1972 the following works contending for prizes of the Academy of Medical Sciences USSR have been received:

Prize imeni M. I. Averbakh, on Eye Diseases

V. S. Belyayev. "Aggregate of Works on Plastic Surgery of the Eye." Articles.

L. F. Linnik. "Tumors of Iridociliary Region and Their Surgical Treatment." Articles.

V. V. Volkov, A. I. Gorban', and O. V. Dzhalilashvili. "Clinical Investigation of the Eye by Means of Instruments." Leningrad, 1971.

P. I. Lebekhov and A. A. Kugleyev. "Traumata of Organon Visus." Leningrad, 1968, 1/4

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Meditsinskaya Gazeta, 8 Jun 73, p 4

Ye. I. Kovalevskiy. "Age Peculiarities of the Organ of Vision in the Normal and Pathological Condition." Moscow, 1971.

Prize imeni G. F. Lang, on Cardiovascular Pathology

I. I. Isakov and M. S. Kushakovskiy (eds.). "Selected Problems of Clinical Electrocardiography." Leningrad, 1972.

B. A. Il'inskiy and S. P. Astrakhantseva. "Electrocardiogram in Acute Disturbances of Cerebral Circulation." Tashkent, 1971.

I. Ye. Ganelina, V. N. Briker, and Ye. I. Vol'pert. "Acute Period of Myocardial Infarction." Leningrad, 1970.

V. A. Kononyachenko. "Hypertensive Disease and Symptomatic Hypertensions." Moscow, 1971.

A. I. Strukov, V. S. Paukov, and V. A. Frolov. "Morphological Basis of Some Typical Pathological Reactions of Altered Myocardium." A cycle of works. 2/4

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B. P. Kushelovskiy and A. N. Kokosov. "Stenocardias and Their Differentiated Therapy." Moscow, 1971.

P. N. Yurenev and N. N. Semenovich. "Clinical Aspects and Therapy of Allergic Affections of the Heart and Vessels." Moscow, 1972.

P. N. Yurenev. "Pathogenesis and Clinical Aspects of Allergic Diseases." Moscow, 1970, 1972.

P. N. Yurenev. "Allergic Reactions of Delayed and Nondelayed Type in Rheumatism with Various Degrees of Activity." An article.

Prize imeni S. I. Spasokukotskiy, on Surgery

V. P. Dyskin. "Pneumectomy and Repeated Operations." Tashkent, 1971.

M. A. Podgorbunskiy and T. N. Shrayer. "Penetrating Injuries and Perforations of the Pectoral Portion of Esophagus." Kemerovo, 1970.

S. A. Gadzhiyev, L. V. Dogel', and V. L. Vanevskiy. "Diagnosis and Surgical Treatment of Myasthenias." Leningrad, 1971.

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Meditsinskaya Gazeta, 8 Jun 73, p 4

V. A. Petrov and E. I. Gal'perin. "Surgery of Extrahepatic Bile Ducts." Moscow, 1971.

Prize imeni N. F. Gamaleya, on Microbiology, Epidemiology and Immunology

A. K. Tumanov and V. V. Tomilin. "Hereditary Polymorphism of Isoantigens and Enzymes of the Blood in the Normal and Pathological Condition of Man." Moscow, 1969.

Prize imeni V. S. Gulevich, on Biological and Medical Chemistry

A. I. Kortev, G. I. Dontsov, and A. P. Lyasheva. "Bio-elements and Pathology of Man." Sverdlovsk, 1972.

Opinions on the above-mentioned works should be sent to the following address: 190240, Moscow, ul. Solyanka, 14.

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PPD: SOVIET SCIENCES

15. USSR

"Institute Awarded Order of Labor Red Banner"

Moscow, Meditsinskaya Gazeta, 20 Mar 74, p 1

Translation: Decree of the Presidium of the Supreme Soviet USSR on Awarding the Order of Labor Red Banner to the Leningrad Scientific Research Institute of Traumatology and Orthopedics imeni R. R. Vreden.

For service in developing public health and medical science and preparing cadres, the Leningrad Scientific Research Institute of Traumatology and Orthopedics imeni R. R. Vreden has been awarded the Order of Labor Red Banner.

Signed by Chairman of the Presidium of the Supreme Soviet USSR N. Podgornyy and Secretary of the Presidium of the Supreme Soviet USSR M. Georgadze. Moscow, the Kremlin, 18 March 1974.

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16. USSR

NAZIMOVA, N., Editor of the Newspaper "Medik Urala," Perm'

"Perm' Scientific Research Institute of Vaccines and Sera Awarded"

Moscow, Meditsinskaya Gazeta, 19 Oct 73, p 1

Translation: Recently at the Perm Scientific Research Institute of Vaccines and Sera of the Ministry of Health USSR a grand meeting was held, devoted to the collective of the Institute. The Institute was conferred this high award for services in the development of public health, medical science, and training of cadres. On the rostrum was Chairman of the Perm' Oblast Executive Committee and Deputy of the Supreme Council RSFSR S. I. Chistoplyasov.

"The award of the Order of Labor Red Banner to the Institute," said he, "betokens a high appraisal of its selfless labors for the health of the Soviet people."

Director of the Institute, Honored Physician of the RSFSR, Candidate of Medical Sciences M. Ye. Spiridonov stated:

"From now on, the Order of Labor Red Banner, a high decoration of the Fatherland, shines on the Institute's Banner. We are especially gratified that this decoration

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NAZIMOVA, N., Meditsinskaya Gazeta, 19 Oct 73, p 1

was awarded to us at this very moment when the entire Soviet nation endeavors successfully to fulfill ahead of time the plan of the third, decisive year of the Five-Year Plan, in the year of the 250th anniversary of our native city of Perm."

M. Ye. Spiridonov, speaking in behalf of the collective of the Institute, assured the Party and the Government that also in the future the Institute will be in the forefront of the struggle for the fulfillment of decisions of the 24th CPSU Congress and in response to the high award of the Fatherland will multiply its scientific and production achievements.

These achievements are already considerable. The Perm' Scientific Research Institute of Vaccines and Sera is one of the largest scientific and production institutions in the country. Here, a new production base is being created. All this, combined with constant improvement of technology of the production of preparations, the search for new advanced means of treatment, diagnosis and prophylaxis of infections, has established a well-deserved Institute's authority not only in our country but also abroad. The Institute is a recognized scientific center of research in rickettsiosis, and the study and improvement of anatoxic and serumal preparations. These investigations represent a tangible contribution to applied immunology.

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USSR

NAZIMOVA, N., Meditsinskaya Gazeta, 19 Oct 73, p 1

The electron microscope investigations were here for the first time introduced and developed in the Urals. In recent years scientists of the Institute have developed more than ten new original preparations. Most of them have been introduced or are being introduced for use in public health services.

The cooperation between science and production, and science and practice, has ensured a steady enhancement in the effectiveness of the work of the Institute, the improvement of technology of its production, and betterment of its quality.

For the ten successive years the collective of the Institute was awarded diplomas of the Exhibition of Achievements of the National Economy of the USSR, and 15 of its workers were bestowed medals of the same Exhibition.

Many generations of workers of science and production passed through the school of life and activity at the Institute. Here works a well-coordinated team of highly qualified specialists, which includes 2 doctors and 23 candidates of sciences. A number of workers were conferred honorary titles: Prof A. V. Pshenichkov -- that of Honored Scientist RSFSR, Candidates of Medical Sciences: L. N. Shishkina, M. Ye. Spiridonov, A. M. Borzunina, Ye. Ye. Kostromina, and others -- those of Honored

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NAZIMOVA, N., Meditsinskaya Gazeta, 19 Oct 73, p 1

Physician RSFSR. Their experience and knowledge help to solve multifarious scientific and production problems. We should name also those who constitute the 'gold fund' of experienced regular workers: Z. I. Kopnina, L. A. Aver'yanova, T. I. Khlebnikova, and L. V. Solivanova. The youth of the Institute continues befittingly traditions of their fathers and mothers. Among them are Galina Sycheva, Mikhail Zanin, and other representatives of the young generation.

In the third, decisive year of the Five-Year Plan the Institute also makes its contribution. The plan of nine months for realization of bacterial and viral preparations has been completed ten days ahead of time.

The collective of the decorated Institute celebrates with new achievements the 56th anniversary of the Great October Socialist Revolution.

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17. USSR

"Honorary Awards"

Moscow, Meditsinskaya Gazeta, 13 Mar 74, p 1

Translation: By decree of the Presidium of the Supreme Soviet Tadzhik SSR for service in the development of republic public health and in connection with his 50th birthday, the title Honored Physician Tadzhik SSR is awarded to Minister of Health Tadzhik SSR Ivan Andreyevich Sazhenin.

By decree of the Presidium of the Supreme Soviet RSFSR for service in medical science and the preparation of scientific cadres, the title Honored Scientist RSFSR is awarded to Prof Nikolay Ivanovich Lazarev, Doctor of Biological Sciences and leader of a laboratory of the Scientific Research Institute of Experimental and Clinical Oncology of the USSR Academy of Medical Sciences.

By decree of the Presidium of the Supreme Soviet RSFSR for service in national public health, the title Honored Physician RSFSR is awarded to the following medical workers of Moscow therapeutic-prophylactic establishments: N. P. Bankuzova, chief physician of City Hospital No. 48; S. G. Golod'ts, chief physician of Maternity Home No 20; V. K. Derboglav, chief forensic-medical expert of the Ministry of Health RSFSR; A. Kh. Dilakyan, chief physician of Maternity Home No 17; M. P. Kirillova, head of

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Meditsinskaya Gazeta, 13 Mar 74, p 1

Special Office No 7 of City Clinical Hospital imeni S. P. Botkin; V. N. Krutkina, chief physician of Central Polyclinic of the Fourth Main Administration of the Ministry of Health RSFSR; L. N. Ladyzhenskaya, head of a division of City Clinical Hospital No 61; P. I. Mishchenko, docent of a chair of the Second Moscow Medical Institute imeni N. I. Pirogov; V. I. Papayni, chief physician of Childrens' Polyclinic No 48; G. M. Russkaya, chief of a department of the Main Sanitary-Epidemiological Administration of the Ministry of Health RSFSR and deputy chief state sanitary physician RSFSR; A. M. Frolikova, chief physician of City Hospital No 66; and V. Ye. Shubert, chief physician of Medical-Sanitary Sector No 1 of the Auto Plant imeni I. A. Likhachev.

By decree of the Presidium of the Supreme Soviet RSFSR for service in national public health, the title Honored Physician RSFSR is awarded to the following medical workers of Moscow therapeutic-prophylactic establishments: Ye. A. Gorokhova, physician of a special clinic of the Fourth Main Administration of the Ministry of Health USSR; G. V. Zhizhere, chief physician of a polyclinic of the Ministry of Higher and Secondary Specialized Education USSR; L. S. Zeyvang, scientific secretary of the All-Union Scientific Research Institute of Obstetrics and Gynecology; and G. A. Nevrayev, chief balneologist of the Therapeutic-Prophylactic Administration of the Central Council for Administering Health Resort Trade Unions.

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18. USSR

"Honorary Awards"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 1

Translation: By decree of the Presidium of the Supreme Soviet RSFSR for service in medical science and preparing scientific cadres, the title Honored Scientist RSFSR is awarded to I. I. Benediktov, head of the Chair of Obstetrics and Gynecology of the Sverdlovsk Medical Institute of the Ministry of Health RSFSR, Doctor of Medical Sciences, and professor.

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RPD: SOVIET SCIENCES

19. USSR

"Honorary Awards"

Moscow, Meditsinskaya Gazeta, 27 Mar 74, p 1

Translation: By decree of the Presidium of the Supreme Soviet RSFSR for service in national public health, the title Honored Physician RSFSR has been awarded to the following medical workers of Krasnodarskiy Kray therapeutic-prophylactic establishments: A. S. Goncharova, head of a division of the Kray Hospital for World War II Invalids; Ye. V. Klochkova, chief physician of the Kray Psychiatric Hospital; S. A. Makarkina, head of a division of the Clinical Hospital of the Electric Meter Plant in Krasnodar; A. A. Stepan'yan, head of a division of Pavlovskaya Central Rayon Hospital; and A. S. Khachik'yan, chief physician of Kanevskaya Central Rayon Hospital.

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# VI OBITUARIES OF SOVIET SCIENTISTS

20. USSR

"P. K. Anokhin"

Moscow, Pravda, 8 Mar 74, p 3

Translation: Soviet medical science has suffered a great irreplaceable loss. Petr Kuz'min Anokhin, noted Soviet scientist and physiologist, Lenin Prize laureate, and Academician of the USSR Academy of Sciences and the USSR Academy of Medical Sciences, died on 6 March 1974 in the 77th year of his life after a serious illness.

P. K. Anokhin was born on 27 January 1898 in Tsaritsyn to a worker's family. He took an active part in the establishment of Soviet rule in the Don and worked as commissar for the press in Novocherkassk and editor of the "Krasnyy Don" newspaper.

His higher medical education was received in Leningrad where he graduated from the vuz in 1926. During his last years there he studied physiology in the laboratories of V. M. Bekhterev and I. P. Pavlov. In 1930 he was elected head of the Chair of Physiology of the Medical Faculty of Nizhegorod University, and since 1935 was head of the Department of General Physiology of Higher Nervous Activity of VIEM (All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy). During World War II P. K. Anokhin worked as a physiologist and neurologist and proposed a number of new operations

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USSR

Pravda, 8 Mar 74, p 3

for plastic surgery of nerve trunks. Since 1955 he was head of the Chair of Normal Physiology of the First Moscow Medical Institute imeni I. M. Sechenov.

P. K. Anokhin took an active part in the organization of the USSR Academy of Medical Sciences and was an academician since his election in 1945. Since 1966 P. K. Anokhin was an academician of the USSR Academy of Sciences.

P. K. Anokhin was a student and successor of I. P. Pavlov, and his entire life was devoted to studying fundamental problems of the activity of the brain. The theory on functional systems of the organism which he developed is a universal principle with wide application not only in physiology and medicine, but also in other scientific fields. P. K. Anokhin developed the principles of compensation of disrupted functions and advanced an original theory on the pathogenesis of neural forms of hypertension. The fundamental provisions of Academician P. K. Anokhin's theory of functional systems were reflected in the monograph "The Biology and Neurophysiology of Conditioned Reflexes," for which he was awarded the Lenin Prize in 1972.

P. K. Anokhin trained several generations of Soviet physicians and scientific workers. His name was connected with original physiological trends resulting in the formation of a new scientific school.

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USSR

Pravda, 8 Mar 74, p 3

P. K. Anokhin was an honorary member of many foreign academies and societies. His scientific and pedagogical activities were always indissolubly connected with great organizational and social work. He actively popularized social scientific achievements in the Soviet Union and abroad. P. K. Anokhin received many governmental awards for his fruitful scientific and pedagogical activity.

The memory of Academician P. K. Anokhin, talented Soviet researcher, scientist, and scientific organizer, will always live in history.

Signed by L. I. Brezhnev, V. V. Grishin, A. P. Kirilenko, A. N. Kosygin, K. T. Mazurov, N. V. Podgornyy, M. A. Suslov, P. N. Demichev, B. N. Ponomarev, M. V. Keldysh, V. A. Kirillin, B. V. Petrovskiy, S. P. Trapeznikov, V. D. Timakov, A. P. Vinogradov, V. A. Kotelnikov, Yu. A. Avchinnikov, M. A. Lavrent'yev, P. N. Fedoseyev, Ye. M. Kreps, G. K. Skryabin, V. V. Kovanov, S. R. Mardashev, M. N. Livanov, V. N. Chernigorskiy, L. G. Voronin, V. I. Struchkov, N. P. Dubinin, A. M. Chernukh, and M. I. Kuzin.

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21. USSR

"A. N. Filatov"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 4

Abstract: Prof Antonin Nikolayevich Filatov, Academician of the USSR Academy of Medical Sciences, State Prize laureate, Honored Scientist RSFSR, and associate of the Leningrad Institute of Hematology and Blood Transfusion of the Ministry of Health RSFSR, died in his 71st year. His obituary is signed by the Ministry of Health USSR, the USSR Academy of Medical Sciences, the Ministry of Health RSFSR, the All-Union Scientific Society of Surgeons, the Central Institute of Hematology and Blood Transfusion of the Ministry of Health USSR, the Leningrad City Department of Public Health, the Leningrad Order of Labor Red Banner Institute of Hematology and Blood Transfusion of the Ministry of Health RSFSR, the Moscow City Scientific Society of Hematologists and Transfusionologists, and the Leningrad City Scientific Society of Hematologists and Transfusionologists.

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22. USSR

"A. N. Formozov"

Moscow, Priroda, No 2, 1974, p 17.

Abstract: Aleksandr Nikolayevich Formozov, Doctor of Biological Sciences and member of the editorial staff of "Priroda," died on 22 December 1973.

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23. USSR

"V. V. Galitskiy"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Geologicheskaya, No 6, 1973, pp 86-87

Abstract: Vladimir Vladimirovich Galitskiy, Kazakh geologist and senior scientific associate of the Sector of Stratigraphy and Tectonics of the Institute of Geological Sciences of the Kazakh Academy of Sciences, died on 18 November 1973.

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29 Mar 74

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24. USSR

"P. S. Kuchеров"

Kiev, Visnik Akademiy Nauk Ukrayns'koy RSR, No 9, 1973, p 111

Abstract: Panteleymon Stepanovich Kuchеров, CPSU member since 1926, Corresponding Member of the Ukrainian Academy of Sciences, and senior scientific associate of the Institute of History of the Ukrainian Academy of Sciences, has died.

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25. USSR

"N. I. Kulichikhin"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Geologiya i Razvedka, No 8, 1973, p 174

Abstract: Nikolay Ivanovich Kulichikhin, senior professor of the Moscow Order of Labor Red Banner Geological Prospecting Institute, State Prize laureate, Honored Scientist and Technician RSFSR, and Doctor of Technical Sciences, died on 27 March 1973.

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29 Mar 74

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26. USSR

"V. A. Royter"

Kiev, Visnik Akademiy Nauk Ukrayns'koy NSR, No 9, 1973, p 110

Abstract: Prof Vladimir Andreyevich Royter, Academician of the Ukrainian Academy of Sciences, Honored Scientist Ukrainian SSR, Doctor of Chemical Sciences, and director for scientific work of the Institute of Physical Chemistry imeni L. V. Pisarzhevskiy, has died. His obituary is signed by the Presidium of the Ukrainian Academy of Sciences, the Division of Chemistry and Chemical Technology of the Ukrainian Academy of Sciences, and the Institute of Physical Chemistry imeni L. V. Pisarzhevskiy of the Ukrainian Academy of Sciences.

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27. USSR

"I. I. Sokolov"

Leningrad, Tsitologiya, Vol 15, No 7, 1973, pp 958-960

Abstract: Prof Ivan Ivanovich Sokolov, creator and associate of the Laboratory of Cell Morphology of the Institute of Cytology of the USSR Academy of Sciences, died on 13 December 1972. His obituary is signed by M. N. Gruzova, Yu. I. Polyanskiy, Ye. V. Raykova, P. O. Svetlov, and A. S. Troshin.

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VII FOREIGN SCIENTIFIC COOPERATION

28. USSR

"Agreements of Cooperation Between USSR and Argentina"

Moscow, Izvestiya, 15 Feb 74, p 1

Translation: Agreements to broaden cooperation between the Soviet Union and Argentina were signed in Buenos Aires. The agreements particularly pertain to trade-economic and scientific-technical cooperation and also deliveries of Soviet machines and equipment to Argentina. The documents were signed for the Soviet Union by Deputy Minister of Foreign Trade USSR A. N. Manzhulo, head of the delegation and for Argentina by Minister of Foreign Affairs and Worship Al'berto Vin'yes and Minister of Economy Jose Jel'bard [both names transliterated]. The President of the Republic of Argentina and other officials were present at the solemn ceremony of the signing of the agreements.

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29. USSR

"Soviet Delegation in Australia"

Moscow, Pravda, 19 Feb 74, p 4

Translation: A Soviet delegation headed by First Deputy Chairman of the State Committee for Science and Technology of the Council of Ministers USSR L. N. Yefremov flew from Moscow to Australia to take part in negotiations for the conclusion of an Intergovernmental Agreement on Scientific-Technical Cooperation.

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29 Mar 74

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30. USSR

"Cuban Visitor"

Moscow, Pravda, 28 Feb 74, p 5

Translation: On 27 February 1974 V. A. Kirillin, deputy chairman of the Council of Ministers USSR and chairman of the State Committee for Science and Technology of the Council of Ministers USSR, was visited by Vilfred Torres, director of the National Center of Scientific Research in Cuba.

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31. USSR

"Aerostats -- Earth's Satellites"

Moscow, Izvestiya, 19 Feb 74, p 5

Translation: A series of complex Soviet-French investigations of the atmosphere's high latitude layers with the use of drifting aerostats has begun.

In the course of these experiments which are being conducted on Swedish territory (City of Kiruna), the Tass correspondent with the Council of Interkosmos Academy of Sciences USSR was told, French aerostats equipped with Soviet and French instruments intended for the investigation of X-ray emissions, changes in the electric field, and lights of Aurora Polaris are being launched.

The aerostats in conformity with the direction of the winter winds drift to the East at altitudes of 30-40 km passing over the territories of Sweden, Finland, and Soviet Union (approximately to the meridian of the Urals). The specific intervals between the launchings secure the synchronism and duration of the scientific measurement along the path of the aerostats' drift.

One of the special features of this experiment is the combination of aerostat, satellite and terrestrial investigations carried out with relation to a single program. This makes possible a complex step-like study of the processes taking place in the magnetosphere and ionosphere of the Earth.

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Izvestiya, 19 Feb 74, p 5

While the aerostats are securing the X-ray emission induced by the intrusion of electrons into the solid layers of the upper atmosphere, Soviet instruments on the Interkosmos-10 satellite record the parameters of the electronic waves. In addition the satellite measures variations of magnetic and electric fields, and low frequency plasma emissions in the space around earth. Satellite Orel-2 launched in accordance with the program of Soviet-French cooperation is participating in the space part of the experiment. Terrestrial methods of investigation are also being widely utilized in the course of the experiment.

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32. USSR

TASS

"A Technological Institute in Bombay"

Moscow, Pravda, 15 Jan 74, p 5

Translation: A Technological Institute was founded in Bombay [India] with the help of the Soviet Union. This higher educational institution is supplied with modern devices and equipment and has become a nursery of highly skilled national cadres. It has already produced engineers, technicians, scientists, and builders.

In the photograph: (on the left) the Institute's building.

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29 Mar 74

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PPD: SOVIET SCIENCES

33. USSR

"Romanian Visitor"

Moscow, Pravda, 19 Feb 74, p 4

Translation: On 18 February 1974 the deputy chairman of the Council of Ministers USSR and chairman of the State Committee for Science and Technology of the Council of Ministers USSR, V. A. Kirillin, received Chairman of the National Council for Science and Technology of Romania I Ursu on a visit to Moscow.

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34. USSR

"Guests of the Red Cross"

Moscow, Meditsinskaya Gazeta, 22 Aug 73, p 4

Translation: At the invitation of the Executive Committee of the Soviet Red Cross, a delegation of the Red Cross of Senegal arrived in Moscow. It was headed by Fatu Niang, [transliterated] deputy chairman of this society. On 20 August the delegation was received by N. B. Troyan, chairman of the executive committee.

The conversation touched on problems of the further development of cooperation and the strengthening of contacts between the societies of the two nations. Fatu Niang thanked the Soviet Red Cross for its selfless help in the systematic programs for vaccinations against polio in Senegal.

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VIII NEW ORGANIZATIONS

35. USSR

BIRYUKOV, V., "Izvestiya" Own Correspondent

"Uralian Center of Power Engineering"

Moscow, Izvestiya, 23 Jan 74, p 4

Translation: Sverdlovsk. A Scientific Computer Center of Power Engineering was organized here [Sverdlovsk].

It will regulate the flow of power over the entire industrial Urals. A complex of buildings is being erected for the Center. A dispatching control desk, a computer room, and research laboratories will be housed there.

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IX CONFERENCES

36. USSR

"Vechernyaya Moskva" correspondent

"Symposium of Biologists-Geneticists"

Moscow, Vechernyaya Moskva, 12 Nov 73, p 2

Translation: The Second All-Union Symposium of Biologists-Geneticists was opened today in the Conference Hall of the Exhibition of Achievements of the National Economy USSR.

During four days Soviet scientists and their colleagues from the German Democratic Republic, the Federal Republic of Germany, England, the United States, Canada, and Japan will deliver reports dealing with the penetration of scientists into the heredity apparatus of the living organism.

On the eve of the opening of the Symposium the director of the Institute of General Genetics of the Academy of Sciences USSR, Academician and Lenin Prize laureate Nikolay Petrovich Dubinin, said in an interview to the correspondent of "Vechernyaya Moskva":

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USSR

Vechernyaya Moskva, 12 Nov 73, p 2

"One of the problems which we will have to discuss is spontaneous and artificial mutagenesis. Mutation is a radical change of hereditary characteristics. It is necessary to learn to control this process and to obtain desirable changes in the hereditary apparatus. In this direction Soviet geneticists have carried out a number of valuable studies. Having learned to influence genes, the carriers of heredity in a cell, man will be able to create new varieties of plants and new breeds of animals which will have enormous advantages over the existing ones.

When we learn to reconstruct the primary structure of the genetic apparatus. After all, these diseases arise as a result of great or small changes in the mechanisms of heredity: chromosomes, DNA molecules, genes. These primary lesions are to be eliminated.

One meeting of the Symposium will be devoted to the problem of "Antimutagenesis and Environment." The point is that the environment surrounding man is increasingly saturated by substances which are capable of causing harmful changes in the hereditary mechanisms of man. It is necessary to protect cells against lesion. The protection of hereditary fundamentals of man against possible influences from the appearance of dangerous factors in the environment is one of the greatest tasks that confront biological science.

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Vochernyaya Moskva, 12 Nov 73, p 2

The greatest success which will be subject of a communication at the Symposium is the achievement of fermentative synthesis of gene at the Institute of General Genetics of the Academy of Sciences USSR, which constitutes a step toward the control of organisms," concluded the Academician.

In the Pavilion of "Biology" of the Exhibition of Achievements of the National Economy USSR an Exposition was opened devoted to research in biology.

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37. USSR

"Conference on Cardiovascular Diseases"

Moscow, Sotsialisticheskaya Industriya, 3 Jan 74, p 3

Translation: A two-day scientific-practical conference dedicated to problems connected with diagnostics and treatment of diseases of the cardiovascular system was held in Uzhgorod. Prominent specialists from Moscow, Leningrad, Kiev, Rostov-on-Don, Vil'nyus, and other cities of the Soviet Union participated in its transactions.

Cardiovascular diseases are the most widespread diseases in the entire world, said Prof N. M. Mukharlyamov of the Institute of Cardiology of the Academy of Medical Sciences USSR, in talking with this Tass correspondent. Notwithstanding the fact that insufficient blood circulation has been intensely studied, particularly of late, and the arsenal of drugs is adequately effective, the achievements of science are still being poorly introduced into polyclinical practice on a broad scale. The Uzhgorod conference should contribute to their popularization.

Interest was displayed in papers concerning new methods of treatment of congenital defects, presented by Kiev scientists of the N. M. Amosov clinic, and a report concerning the surgical treatment of vascular diseases presented by Prof A. A. Shalimov -- one of the leading surgeons in the Republic and corresponding member of the Academy of Sciences Ukrainian SSR.

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X MISCELLANEOUS

38. USSR

"Information about the Authors"

Kiev, Kibernetika, No 1, 1974, p 152

Translation:

Ayzenberg, Naum Nisonovich -- Candidate of Physicomathematical Sciences, docent of Uzhgorod University;  
 Akimov, Aleksandr Petrovich -- senior engineer of IK AN UkrSSR (Institute of Cybernetics of the Ukrainian Academy of Sciences), Kiev;  
 Ambaryan, Sotskar Levonovich -- Candidate of Technical Sciences, chief of a sector of the Yerevan Scientific Research Institute of Mathematical Machines;  
 Afanas'yev, Viktor Alekseyevich -- Candidate of Technical Sciences, docent of the Military Engineering Academy imeni A. F. Mozhayskiy, Leningrad;  
 Barashko, Anatoliy Sergeyevich -- senior instructor of Donetsk University;  
 Bashkov, Yevgeniy Aleksandrovich -- aspirant of the Donetsk Polytechnical Institute;  
 Bershteyn, Mikhail Semenovich -- student of the Kiev Polytechnical Institute;  
 Boguslavskaya, El'mira Isaakovna -- engineer of IK AN UkrSSR, Kiev;  
 Burinskiy, Vladimir Viktorovich -- engineer of IK AN UkrSSR, Kiev;

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Kibernetika, No 1, 1974, p 152

Veklich, Vyacheslav Nikolayevich -- junior scientific associate of VNIIVE (expansion unknown), Donetsk;  
 Voloshina, Alla Abramovna -- junior scientific associate of the Institute of Technical Cybernetics of the Belorussian Academy of Sciences, Minsk;  
 Gindes, Viktor Borisovich -- Candidate of Physicomathematical Sciences, docent of the Donetsk Polytechnical Institute;  
 Gikhman, Lev Iosifovich -- engineer of IK AN UkrSSR, Kiev;  
 Gobershteyn, Semen Markovich -- assistant of the Chair of Functional Analysis and the Theory of Functions of Kuybyshev University;  
 Grunskiy, Igor' Sergeyevich -- junior scientific associate of Glavnii VTs (Main Scientific Research Institute Computer Center) of Gosplan Ukrainian SSR, Kiev;  
 Gur'yanov, Anatoliy Yevseyevich -- Candidate of Physicomathematical Sciences, docent of Leningrad State University;  
 Guseva, Olga Vasil'yevna -- Candidate of Physicomathematical Sciences, junior scientific associate of the Leningrad Division of the Central Economic-Mathematical Institute;  
 Diyesperova, Margarita Mikhaylovna -- junior scientific associate of the Institute of Mathematics AN UkrSSR, Kiev;

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Kibernetika, No 1, 1974, p 152

Zlatorunskiy, Nikolay Konstantinovich -- aspirant of the Leningrad Mechanical Institute;  
 Zlotnik, Boris Moiseyevich -- Candidate of Technical Sciences, senior scientific associate, Moscow;  
 Ivanov, Aleksandr Vladimirovich -- engineer of IK AN UkrSSR, Kiev;  
 Karelin, Vladimir Vital'yevich -- senior engineer of Leningrad University;  
 Korshunov, Aleksey Dmitriyevich -- Candidate of Physicomathematical Sciences, senior scientific associate of the Institute of Mathematics of the Siberian Department of the USSR Academy of Sciences, Novosibirsk;  
 Kotov, Vadim Yevgen'yevich -- Candidate of Physicomathematical Sciences, scientific secretary of the Computer Center of the Siberian Department of the USSR Academy of Sciences, Novosibirsk;  
 Markosyan, Stepan Yeghiazarovich -- Candidate of Physicomathematical Sciences, chief of a laboratory of the Yerevan Scientific Research Institute of Mathematical Machines;  
 Nekrylova, Zinaida Vasil'yevna -- junior scientific associate of IK AN UkrSSR, Kiev;  
 Nurminskiy, Yevgeniy Alekseyevich -- aspirant of the Moscow Physicotechnical Institute;  
 Petrosyan, Ashot Vezirovich -- Candidate of Physicomathematical Sciences, chief of a division of the Yerevan Scientific Research Institute of Mathematical Machines;

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Kibernetika, No 1, 1974, p 152

Pogosyan, Igor' Abramovich -- Candidate of Technical Sciences, senior scientific associate of IL AN UkrSSR, Kiev;  
 Poncmarenko, Aleksandr Ivanovich -- Candidate of Physicomathematical Sciences, docent of KGU (expansion unknown);  
 Romankevich, Aleksey Mikhaylovich -- Candidate of Technical Sciences, docent of KPI (expansion unknown);  
 Speranskiy, Dmitriy Vasil'yevich -- Candidate of Physicomathematical Sciences, scientific secretary of the Institute of Applied Mathematics and Mechanics of AN UkrSSR, Donetsk;  
 Spiridonova, Renal'da Pavlovna -- Candidate of Technical Sciences, junior scientific associate of IK AN UkrSSR, Kiev;  
 Tiskin, Vladimir Lazarevich -- engineer of NTPO "Lentsistemotekhnika" (expansion unknown);  
 Ukhobotov, Viktor Ivanovich -- assistant of the Chair of Theoretical Mechanics, of the Chelyabinsk Polytechnical Institute;  
 Feynberg, Valeriy Zalmanovich -- Candidate of Physicomathematical Sciences, head of a laboratory, Minsk;  
 Fursova, Tamara Ivanovich -- Candidate of Physicomathematical Sciences, junior scientific associate of IK AN UkrSSR, Kiev;

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WPD: SOVIET SCIENCES

USSR

Kibernetika, No 1, 1974, p 152

Kharchenko, Fedor Mefodiyevich -- leader of a laboratory IL AN UkrSSR, Kiev;  
Tsitskin, Aleksandr Il'ich -- senior engineer of Uzhgorod University;  
Shukuryan, Yuriy Gaykovich -- Candidate of Physicomathematical Sciences, chief of a  
department of the Yerevan Scientific Research Institute of Mathematical Machines.

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39. USSR

"Information about the Authors"

Kiev, Kibernetika, No 6, 1973, p 153

Translation:

Anastasyan, Yuriy Gurgenovich - aspirant at Yerevan Scientific Research Institute  
(NII) of Mathematical Machines;  
Arolovich, Viktor Semenovich - aspirant at the Institute of Applied Mathematics,  
USSR Academy of Sciences (AN SSSR), Moscow;  
Bistritskas, Vilyus Bronislavovich - Candidate of Physicomathematical Sciences, senior  
scientific associate at the Institute of Physics and Mathematics, Academy of  
Sciences Lithuanian SSR, Vil'nyus;  
Boguslavskaya, El'mira Isaakovna - engineer at the Institute of Cybernetics of the  
Ukrainian Academy of Sciences (IK AN UkrSSR), Kiev;  
Bondarenko, Vladimir Mikhaylovich - Candidate of Technical Sciences, senior scientific  
associate at the Institute of Electrodynamics AN UkrSSR, Kiev;  
Vaynerman, Leonid Yosifovich -- engineer KVI AVU VVS (expansion unknown), Kiev;  
Gerasimov, Igor' Vladimirovich - aspirant at Leningrad Electrotechnical Institute;  
Gribov, Arkadiy Borisovich - senior engineer at the Computer Center (VTs) of  
Leningrad State University;

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USSR

Kibernetika, No 6, 1973, p 153

Grigorenko, Nikolay Leont'yevich - aspirant at Moscow State University;  
 Grunskiy, Igor' Sergeyevich - junior scientific associate at the Institute of Applied Mathematics and Mechanics, AN UkrSSR, Donetsk;  
 Guseva, Ol'ga Vasil'yevna - Candidate of Physicomathematical Sciences, junior scientific associate at the Leningrad Department of TsEMI of AN SSSR;  
 Dzyubenko, Gretkhen Tsolakovna - junior scientific associate at IK AN UkrSSR, Kiev;  
 Zadiraka, Valeriy Konstantinovich - Candidate of Physicomathematical Sciences, senior scientific associate at IK AN UkrSSR, Kiev;  
 Zaboltn, Yaroslav, Ivanovich - Candidate of Physicomathematical Sciences, docent at Kazan' State University;  
 Igisinov, Kazybay - instructor at Kazakh Pedological Institute, Alma-ata;  
 Katkovnik, Vladimir Yakovlevich - Candidate of Technical Sciences docent at Leningrad Polytechnical Institute imeni M. I. Kalinin;  
 Konson, Yevgeniy Davidovich - junior scientific associate at the All-Union Scientific Research Institute of Scientific Instrument-Making, Leningrad;  
 Korablev, Anatoliy Ivanovich - assistant at the chair of Applied Mathematics at Kazan' State University;  
 Levin, Vitaliy, Il'ich - Doctor of Technical Sciences, senior scientific associate at the Institute of Electronics and Computer Technology of AN LatSSR, Riga;

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Kibernetika, No 6, 1973, p 153

Ledin, Mikhayl Ivanovich - Candidate of Technical Sciences, department head at the Problems of Scientific Research Laboratory of the Moscow Engineering Economic Institute;  
 Madatyan, Khikar Asilbakovich - Candidate of Physicomathematical Sciences, junior scientific associate at VTs AN SSSR, Moscow;  
 Mal'chik, Sergey Makarovich - senior engineer at the Institute of Electrodynamics of AN UkrSSSR, Kiev;  
 Moiseyev, Nikita Nikolayevich - corresponding member of the AN SSSR, deputy director of the VTs AN SSSR;  
 Moklyak, Nikolay Grigor'yevich -- deputy chief of the VTs at Khar'kov Aviation Institute;  
 Nikitenko, Igor Nikolayevich - main project foreman at Special Design Bureau (SKB) IK AN UkrSSR, Kiev;  
 Parasyuk, Ivan Nikolayevich - group leader at IK AN UkrSSR, Kiev;  
 Popov, Vyacheslav Alekseyevich - Candidate of Technical Sciences, docent at the Khar'kov Aviation Institute;  
 Pyt'yev, Yuriy Petrovich - Candidate in Physicomathematical Sciences, docent at Moscow State University;

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USSR

Kibernetika, No 6, 1973, p 153

Rytsaov, Igor' Konstantinovich - engineer, Saratov;

Sergiyenko, Ivan Vasil'yevich - Doctor of Physicomathematical Sciences, head of a department at IK AN UkrSSR, Kiev;

Skibenko, Igor' Timofeyevich - senior engineer at SKB of the 'Kommunar' Plant, Khar'kov;

Speranskiy, Dmitriy Vasil'yevich - Candidate of Physicomathematical Sciences, scientific secretary of the Institute of Applied Mathematics and Mechanics of the AN UkrSSR, Donetsk;

Fel'dman, Vladimir Yevgen'yevich - junior scientific associate NII of the Tire industry, Moscow;

Khrushchulin, Rustem Farukovich - assistant at the chair of Applied Mathematics of Kazan State University.

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40. USSR

REYDI, I., correspondent of "Pravda"

"Exhibition "The Atom in Action"

Moscow, Pravda, 15 Jan 74, p 6

Translation: Tallin, 14 Jan 74. An exhibition "The Atom in Action" is being opened here. It tells of great achievements by Soviet science in atomic physics and of the application of the achievements in the national economy. Highlighting the exhibit are models of the world's first atomic power station built 20 years ago in Obninsk and the flagship of the USSR Arctic Fleet, the atomic icebreaker "Lenin." Considerable space at the exhibition is occupied by operative models of various thermonuclear machines. One section of the exhibition is set apart for instruments and methods of the application of radioactive isotopes in various branches of the national economy.

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41. USSR

SAMOYLENKO, N., non-staff correspondent of "Izvestiya"

"Sanitary Condition of Ukrainian Rivers"

Moscow, Izvestiya, 22 Feb 74, p 4

Translation: A new chart of the sanitary condition of Ukrainian rivers is being completed by the Scientific Research Institute of General and Communal Hygiene imeni Academician A. N. Marzeyev.

Extensive reconstruction of rivers and building of new canals (are now in progress says Deputy Director of the Institute Doctor of Medical Sciences Prof N. Kvitnitskaya. The main task of the scientists-hygionists is the protection of open surface sources of water supply. In compiling the hygienic prognosis of rivers for the near future and up to the year of 2000, our purpose is to render active assistance to hydroconstruction workers, irrigators, and specialists in water supply works.

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# XI ORGANIZATIONAL BRIEFS

## 1. USSR

"All-Union Institute of Horticulture imeni N. I. Vavilov"

Moscow, Pravda, 23 Nov 73, p 6

Translation: A package with seeds 1300 years old was received at the All-Union Institute of Horticulture imeni N. I. Vavilov. The seeds were sent to Leningrad by archeologists from Kara-Kalpak ASSR. While digging in the Kurganaha settlement in the delta of Amudar river they discovered the well preserved seeds. Doctor of Agricultural Sciences M. M. Yakubtainer and his colleagues identified these seeds. Barley, millet as well as seeds of melons, and chick-peas -- a special type of legumes, and most important -- a rare specie of wheat in globular form were found under the layers of earth.

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## 2. USSR

"All-Union Scientific Research Institute of Clinical and Experimental Surgery"

Moscow, Meditsinskaya Gazeta, 8 Mar 74, p 2

Prof R. N. Lebedeva -- head of the Division of Reanimation and Intensive Therapy

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MPD: SOVIET SCIENCES

3. USSR

VADIMOVA, M.

"All-Union Scientific Research Institute of the Peat Moss Industry"

Moscow, Izvestiya, 22 Feb 74, p 4

Translation: At any time of the year pinks will bloom and lettuce will turn green on your window sill if you utilize the innovation developed at the All-Union Scientific Research Institute of the Peat Moss Industry.

The basis of this microgarden is a bulky packet filled with peat moss to which lime has been added. Added also is an earlier measured mixture of mineral fertilizer containing all the necessary trace elements required by the plants. Pictured in small squares on the surface of the packet are cucumbers, onions, tomatoes, serrel, strawberries, and tulips -- all these which are recommended for growth.

All that is necessary is to cut the packet, slightly moisten the soil, and plant the seeds or seedlings.

The production of the house garden has been perfected by the peat moss enterprises "Skvalove," near Leningrad, "Soda," in Latvia, and "Tootsi," in Estonia. The innovation is being demonstrated at the Fair of the Achievements of the National Economy USSR (Moscow).

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4. USSR

"Blagoveshchensk" Medical Institute"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 2

N. Voronin -- assistant of the Chair of Traumatology and Orthopedics, Candidate of Medical Sciences

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5. USSR

KUCHERENKO, I.

"Central Institute of Agrochemical Service to Agriculture (TsINAO)"

Moscow, Izvestiya, 6 Feb 74, p 3

Translation: The local branch [Tbilisi] of the Central Institute of Agrochemical Service to Agriculture (TsINAO) has worked out, using the Minsk-22 computer, recommendations for rational use of mineral fertilizers.

Not long ago multicolor cartograms were used to estimate requirements of farms for application of mineral fertilizers. However, they were providing rather superficial information on the state of soil. A table compiled by a computer permits us to say with certitude which kind of fertilizer, at what time, and in what quantity should be introduced into this or that plot of soil.

Recommendations for rational use of mineral fertilizers worked out with computer, were already received by over one thousand farms.

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6. USSR

"Central Order of Lenin Institute for the Advanced Training of Physicians (TsOLIU)"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 2

Prof N. A. Vinogradov -- head of the Chair of Social Hygiene and the Organization of Public Health, Corresponding Member of the USSR Academy of Medical Sciences

T. N. Yeliseyeva -- senior instructor of the Chair of Social Hygiene and the Organization of Public Health

M. D. Kovrigin -- rector, physician

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7. USSR

"Central Scientific Research Institute of Sanitary Education"

Moscow, Meditsinskaya Gazeta, 20 Mar 74, p 4

D. N. Lopanskiy -- director of the Institute

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8. USSR

"Institute of Atmospheric Optics, Siberian Department of the USSR Academy of Sciences"

Moscow, Pravda, 15 Jan 74, p 2

Translation: Scientists of the Institute of Atmospheric Optics of the Siberian Department of the Academy of Sciences USSR have developed an interferometric method of controlling the atmospheric refraction index and constructed a laser meter, viz., a digital follow-up optical-band phasemeter. This device ensures the measurement of optical wavelengths with record accuracy, letting scientists estimate even an insignificant influence of the atmosphere on the work of optical systems.

In the photograph: Associates of the Institute of Atmospheric Optics of the Siberian Department of the Academy of Sciences USSR S. Khmelevtsev and V. Pokasov setting up the phasemeter.

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9. USSR

OLADKOV, N., correspondent of "Pravda," Tashkent

"Institute of Botany, Uzbek Academy of Sciences"

Moscow, Pravda, 19 Dec 73, p 6

Translation: A group of scientific associates of the Institute of Botany of the Uzbek Academy of Sciences has returned from the Kyzyl Kum Desert Station.

"The present year has turned out to be most fruitful to us," stated Candidate of Biological Sciences I. F. Momotov, head of the Kyzyl Kum Desert Station. "In the southwestern part of Kyzyl Kums, where for over ten years we have been carrying out experiments in the improvement of pastures, we have succeeded in collecting plenty of seeds of sagebrush, saxaul, winterfat, and other desert plants. Wild grasses were sown over great areas. A part of the old sowings was for the first time permitted to be permanently used by the karakul-breeding farm of Bukharskaya Oblast."

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10. USSR

"Institute of Cardiovascular Surgery, USSR Academy of Medical Sciences"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 3

G. Kassirskiy -- Doctor of Medical Sciences, leader of the clinical rehabilitation group

11. USSR

"Institute of Epidemiology and Microbiology imeni N. F. Gamaley, USSR Academy of Medical Sciences"

Moscow, Meditsinskaya Gazeta, 20 Mar 74, p 3

S. V. Prozorovskiy -- deputy director of the Institute

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12. USSR

MONAKHOV, V.

"Institute of Ethnography imeni N. N. Miklukhe-Maklay, USSR Academy of Sciences"

Moscow, Izvestiya, 10 Feb 74, p 4

Translation: At the Institute of Ethnography imeni N. N. Miklukhe-Maklay of the Academy of Sciences USSR the work has begun on compilation of the historical-ethnographical atlases of "Ukraine, Belorussia, Moldavia," "Caucasus," "Central Asia and Kazakhstan," and "Baltic Countries."

This work will constitute a real encyclopedia of genuine cultures of the Soviet nations.

"Our Institute works not only on compiling atlases. Ethnographers, as is well known, are also interested in the ways of present life and in the 'legends of the remote past' which are preserved in the people's memory," said the Scientific Secretary V. Basilov. "The collection of data for atlases is carried out by five permanent expeditions."

"The groups of the Northern Expedition, for example, conduct studies on the subject 'The Process of Development of the Economy and Culture, and the Reconstruction of the Way of Life in Small Nations of the North.' The participants of another  
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USSR

MONAKHOV, V., Izvestiya, 10 Feb 74, p 4

expedition, the Khorezmian one, are continuing the excavation of the well-known ancient cities of Toprak-Kala and Kyuzeligyr."

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13. USSR

LOGINOVA, N., correspondent of "Komsomol'skaya Pravda"

"Institute of General Genetics, USSR Academy of Sciences"

Moscow, Komsomol'skaya Pravda, 7 Dec 73, p 4

Abstract: The article presents an interview conducted at the Institute of General Genetics of the Academy of Sciences USSR with Academician N. P. Dubinin, Aleksandr Popov, Aleksandr Fedotov, and Georgiy Abramovich Dvorkin, associates of the Laboratory of Biochemical Genetics, who succeeded in synthesizing genes. The interview contains a detailed discussion of the subject in question with the discoverers.

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14. USSR

"Kalinin Medical Institute"

Moscow, Meditsinskaya Gazeta, 27 Mar 74, p 3

Prof Ye. Gavrilov -- head of the Chair of Orthopedic Stomatology

15. USSR

"Khar'kov Scientific Research Chemicopharmaceutical Institute"

Moscow, Meditsinskaya Gazeta, 20 Mar 74, p 3

Prof Ya. I. Khadzha -- associate of the Institute

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16. USSR

"Kishinev Medical Institute"

Moscow, Meditsinskaya Gazeta, 27 Mar 74, p 3

Prof A. A. Zor'kin -- head of the Chair of Pathological Physiology, Honored Scientist Moldavian SSR, Doctor of Medical Sciences

V. Z. Burlak -- Candidate of Medical Sciences

P. A. Kazak -- Candidate of Medical Sciences

L. N. Kobyl'yanskiy -- Candidate of Medical Sciences

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17. USSR

"1st Moscow Medical Institute imeni I. M. Sechenov"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 1

B. Shal'nev -- deputy secretary of the party committee

18. USSR

"2nd Moscow Medical Institute imeni N. I. Pirogov"

Moscow, Meditsinskaya Gazeta, 20 Mar 74, p 3

of V. Mikhel'son -- head of the Laboratory of Anesthesiology and Reanimation

D. Roshchupkin -- docent of the Chair of Biophysics

Ye. Puchkov -- aspirant of the Chair of Biophysics

A. Potapenko -- aspirant of the Chair of Biophysics

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19. USSR

"Patrice Lumumba Peoples' Friendship University"

Moscow, Meditsinskaya Gazeta, 13 Mar 74, p 3

Prof F. Romashov -- dean of the Medical Faculty

20. USSR

"Ryazan' Medical Institute imeni Academician I. Pavlov"

Moscow, Meditsinskaya Gazeta, 15 Mar 74, p 3

Prof N. I. Smetanin -- head of the Chair of Labor Hygiene

V. Kiryushin -- aspirant of the Chair of Labor Hygiene

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21. USSR

"Sochi Scientific Research Institute of Health Resort Science and Physiotherapy"

Moscow, Meditsinskaya Gazeta, 13 Mar 74, p 3

V. I. Romanov -- head of the Neurological Department, Candidate of Medical Sciences

G. Galatsan -- laboratory worker

22. USSR

"Tashkent Medical Institute"

Moscow, Meditsinskaya Gazeta, 8 Mar 74, p 4

M. A. Ashrapova -- head of the Chair of General Survery of the Stomatological Faculty,  
Honored Scientist Uzbek SSR

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## XII EAST EUROPE

### 1. BULGARIA

BALEVSKI, A., President of the Bulgarian Academy of Sciences

"Message to the Institute of Microbiology, Bulgarian Academy of Sciences"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 1, 1973, p 65

Abstract: The Presidium of the Bulgarian Academy of Sciences and Academician A. Balevski, president of the Academy, congratulate the Institute of Microbiology on the 25th anniversary of its existence. During the 25 years of its activity the Institute of Microbiology, some of whose achievements have received a high evaluation from the state, has become one of the leading centers of microbiological science in Bulgaria. The Institute has worked on important problems that are related directly to the practical aspects of health protection, agriculture, and some fields of industry. Its activity has created a basis for the development of a branch of microbiology that is new in Bulgaria, namely industrial microbiology. Confidence may be expressed that the personnel of the Institute of Microbiology will successfully carry out the tasks that are set to the Academy of Sciences and to Bulgarian science in general by decisions of the Bulgarian Communist Party.

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### 2. BULGARIA

"Scientific Cooperation Between the Bulgarian Academy of Sciences and the Georgi Dimitrov Agricultural Academy"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, p 73

Abstract: On 5 July 1973 the Bulgarian Academy of Sciences and the Georgi Dimitrov Agricultural Academy signed an agreement on cooperation. The persons who signed the agreement were Academician Angel Balevski, president of the Bulgarian Academy of Sciences, and Corresponding Member Kunyu Stoev, rector of the Agricultural Academy. Members of the administration of the two academies were present at the signing. The agreement provides for cooperation on a wide scale in scientific research, training of personnel, organizational activity, and the development of methods. Work on important problems and in important fields will be mutually elaborated. The principal scientific fields in question are man and his environment; programming of yields of the main agricultural crops; the physiological basis of the productivity of plant cultures; plant and animal genetics; many-sided investigations on the plant and animal resources of Bulgaria, etc. Furthermore, mutual prognoses will be made and concepts, plans, and programs of scientific research in biology and agricultural biology mutually formulated.

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3. BULGARIA

"G. Brankov"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, p 74

Abstract: At the 5th World Congress of Earthquake-Proof Construction held at the end of June 1973 in Rome, Corresponding Member and Chief Scientific Secretary of the Bulgarian Academy of Sciences Georgi Brankov was elected director of the International Association of Earthquake-Proof Construction. The election of Brankov constitutes a recognition of the role played by Bulgarian science and of the work done by the Bulgarian National Committee on Earthquake-Proof Construction of which Brankov is chairman.

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4. BULGARIA

Ikonomov, G.

"V. Kazandzhiev"

Sofia, Rentgenologiya i Radiologiya, Vol 12, No 3, 1973, p 191

Abstract: Doctor Vasil Kazandzhiev (born in 1902 at Rusa) completed his medical studies at Graz, Austria, in 1926. He studied roentgenology at the Medical Faculty in Sofia in 1927-28. From 1929 to 1959 (the year of his retirement) Kazandzhiev was employed as roentgenologist at Rusa State Hospital where he was director of the X-Ray Department since 1936. From the first to last day of his activity Kazandzhiev worked ceaselessly at the Rusa District Hospital. After 1944 Kazandzhiev was active as roentgenology instructor for hospital physicians. The first roentgenologists in the city and district were trained by him. He carried out studies on lumbar disc hernias, various types of stomach distortions, and the specific descending thoracic-lumbar lymphadenitis. Kazandzhiev introduced a method for the double contrasting of the cardiac. In X-ray therapy he was especially interested in the use of small doses of radiation according to Pape for treating acute inflammatory diseases, particularly pulmonary and bronchopulmonary diseases. The First Conference of Northern Bulgarian Roentgenologists was fittingly held at Rusa where Kazandzhiev's activity was centered.

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5. BULGARIA

"Academician Angel Balovski Elected Honorary Doctor"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, p 71

Abstract: The Senate of the Academic Council of the Polytechnical Institute at Ilmenau, GDR elected Academician A. Balevski, president of the Bulgarian Academy of Sciences, Honorary Doctor of Engineering of the Institute. The election of Balevski constitutes a recognition of his achievements in the advancement of science and technology as well as of his efforts in reinforcing the cooperation between the scientists of Bulgaria and the GDR.

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6. BULGARIA

"Academician Angel Balevski's Visit to the GFR"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, p 72

Abstract: At an invitation by the Government of the GFR and the Max Planck Association for the Advancement of Science, A. Balevski, president of the Bulgarian Academy of Sciences, went on 8 May 1973 for a two weeks' visit to the GFR. The purpose of Balevski's visit was a study of the possibilities of establishing cooperation between the Bulgarian Academy of Sciences and the corresponding scientific organizations in the GFR. In connection with this Balevski visited various scientific research institutes and had meetings with scientists of Munich, Stuttgart, Bonn, Aachen, Hamburg, Frankfurt-on-Main, Darmstadt, and Mannheim. He discussed with Prof Joachimsen, state secretary of the Ministry of Science and Education, possibilities of cooperation in the field of science and technology.

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7. BULGARIA

"Special Copernicus Medal to Academician Angel Balevski"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, p 71

Abstract: During May 1973 the Polish Preparatory Committee for the Celebration of the 500th Anniversary of the Birth of Nikolaus Copernicus headed by Prof Doctor Janusz Groszkowski, chairman of the Presidium of the All-Polish Committee of the Front of National Unity, honored public leaders and scientists of many countries by awarding a special Copernicus medal. Among those to whom the Copernicus medal was awarded are Georgi Traykov, secretary of BZNS and first deputy chairman of the State Council; Academician A. Balevski, president of the Bulgarian Academy of Sciences, and Lyubomir Levchev, first deputy chairman of the National Council of the Fatherland Front.

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8. BULGARIA

"Bulgarian-Romanian Scientific Cooperation"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, p 74

Abstract: A plan of scientific cooperation between the Bulgarian Academy of Sciences, the Romanian Academy of Sciences, and the Romanian Academy of Social and Political Sciences for the period 1973-1975 was agreed upon and signed on 28 May 1973 in Sofia. The new plan and the minutes of the meeting held in connection with it were signed by Academician Khristo Daskalov, deputy chairman of the Bulgarian Academy of Sciences; Academician Remus Rudulec, deputy chairman of the Romanian Academy of Sciences; and Alexandru Rosca, Corresponding Member and member of the Presidium of the Romanian Academy of Social and Political Sciences. Present at the signing were Academician Angel Balevski, president of the Bulgarian Academy of Sciences; representatives of the Bulgarian Ministry of Foreign Affairs; and Trofin Simedrea, Romanian Ambassador to Bulgaria.

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RPD: SOVIET SCIENCES

9. BULGARIA

"Cooperation Between Bulgarian and Vietnamese Scientists"

Sofia, Spisanie na Bulgarskata Akademiya na Naukite, Vol 19, No 3, 1973, pp 70-71

Abstract: On 2 August 1973 at the Presidium of the Bulgarian Academy of Sciences a meeting took place between Pam Van Dong, chairman of the Council of Ministers of the Democratic Republic of Vietnam (DRV) and members of the administration of the Academy. Present at the meeting were Mako Dakov, deputy chairman of the [Bulgarian] Council of Ministers; Din Tkhi Ngok Tao, Ambassador of the DRV to Bulgaria; and Nikolay Chernov, Bulgarian Ambassador in Hanoi. In a discussion with Academician Angel Balevski, president of the Bulgarian Academy of Sciences, the possibilities of organizing contacts and establishing cooperation between Bulgarian and Vietnamese scientists were considered. Pam Van Dong evinced interest in the 104 year-old history of the Bulgarian Academy of Sciences, its organization and structure, and the orientation of the academy's work towards vital needs and the exertion of aid to socialist construction.

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10. EAST GERMANY

PREI, Gunter, Minister for Science and Technology, German Democratic Republic, Berlin

"Science and Integration"

Moscow, Pravda, 1 Dec 73, p 4

Abstract: In solving scientific-technical problems the scientists and technologists of GDR attach paramount importance to direct cooperation with organizations and enterprises of socialist countries, especially the Soviet Union. This cooperation, continuing now for over 20 years, is imbued with a spirit of fraternal confidence. As has been emphasized once more by the 10th Plenum of the Central Committee of the Socialist Unity Party of Germany, socialist economic integration has been and remains the basic precondition for the successful fulfillment of the decisions of the 8th Congress of the Party. The basis of this concrete scientific-technical cooperation is the Complex Program of the Socialist Economic Integration of the member countries of the Council of Mutual Economic Aid. The realization of this program permits us to solve those problems that are most important for the economy of fraternal countries. In scientific research programs of individual countries the highest attention is paid to jointly elaborated and coordinated projects. Each country concentrates its scientific research potential primarily for the fulfillment of such researches that meet both national and international requirements. The article enumerates works accomplished by joint efforts

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EAST GERMANY

PREI, Gunter, Pravda, 1 Dec 73, p 4

of scientists of the socialist block and the Soviet Union, with special emphasis on those performed with the help of the GDR such as unified system of computers, introduction of new methods in chemical technology, joint long-range planning and coordination of tasks for periods up to 1990, etc.

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11. POLAND

KOROLEV, M., special correspondent of "Pravda"

"Achievements of Polish Science Extolled"

Moscow, Pravda, 17 Jan 74, p 4

Translation: A swift-winged bird soaring from the pages of an open book is the emblem of the recently completed year of Polish science. It has been notable by 3 anniversary dates: the 500th anniversary of the birth of Nicolaus Copernicus, the 201st of the creation of the Educational Commission, the 1st in Europe of an All-State Institute for Problems of Education, and the 100th anniversary of the Polish Academy of Sciences. The year was completed, but its motto, "science in the service of the people," remained the principle and constant operative direction of work of intellectual forces of the country, i.e., bringing science closer to society and society to science. Activization of the work of scientists, the strengthening of the influence of science on the life of the country, and the expansion and deepening of research, and their connection with the practice of building socialism in Poland -- such is fundamental influence of this year of Polish science, which will affect the next period with an even greater force. The book and the bird are symbols that accurately express the course of scientific and technological progress by the People's Poland.

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## POLAND

KOROLEV, M., Pravda, 17 Jan 74, p 4

A real scientist is always looking into the future. Even while studying the past he does it for tomorrow. That is why science, as was noted in her time by Maria Sklodowska-Curie, constitutes the basis of each process which facilitates the life of man and reduces his sufferings. At the Institute of Nuclear Research in Swierk, near Warsaw, the largest scientific research center in the country, where 3,500 workers continue directly the work, at the source of which stood in her time Maria Sklodowska-Curie, the words of the great daughter of the Polish people sounded particularly timely.

The young (it is not even twenty years old) and rapidly growing Institute is all preoccupied with the tomorrow of the People's Poland, and its science and technology, whose development is at present closely connected with the results of the investigation of the very essence of the atom. It is not mere chance that the plans of the Institute's collective include a wide program of fundamental and research investigations ranging from theoretical physics to radiobiology. Application of nuclear reactors in power engineering, problems of reactor technology, and utilization of nuclear processes in industry and medicine, are only a part of a wide range of problems which are being solved here, and are directly oriented toward the interests of the national economy. During the past five years alone the Institute had proposed 180 methods and devices for the industry and agriculture.

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Over 1,000 analyses of the samples of ore and flotation pulp are being performed daily by the two betatrons created by the Institute in the laboratories of the activation analysis at the Lubin ore deposit and Polkowice mine. Reliability of the equipment, high accuracy, and speed of the analysis bring honor to the creators of this method, and ensure good prospects in the technology of the concentration of ore in the mining of copper and other valuable metals. At present it is envisaged to open one more such laboratory at the ore mine of Rudna, which is now under construction.

It is well known that nuclear processes find multifarious and sometimes most unexpected applications. A neutron beam of one of the Institute's accelerators, for example, sterilizes bony tissue before its transplantation. The other accelerator is switched into a technological line for the radiation processing of the latex. There have been already produced trial lots of the sections of aortas and cardiac valves for surgical purposes, and there was obtained a pure and safe product "puritex," necessary for manufacturing surgical gloves and phonendoscopes.

Horizons of industrial utilization of accelerators of electrons and other particles were found to be very wide. Doctor Alexander Ciszek, who heads, at the Institute, the development of experimental equipment, jokingly asserts that with time the beams of

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electrons will be able to transform a bad wine into an excellent one. Such investigations had not yet been developed, but there were successfully realized and applied in practice a number of other developments, such as methods of implantation of ions, and fast-starting plasmotrons for the protection of casting molds, and petrochemical and other equipment, working under difficult conditions.

Director of the Institute, Professor Jerzy Minczewski, emphasizes that the Institute's collective owes its successes in many respects to a cooperation with its Soviet colleagues. A linear accelerator manufactured in the USSR and assembled with help of Soviet specialists made it possible to develop research for medical purposes. In cooperation with scientists of the Soviet Union and German Democratic Republic is now being introduced control automation of the work of power reactors. Agreements of cooperation bind the Polish Nuclear Center with the Soviet Institutes of Atomic Energy imeni Kurchatov, of Physical Power Engineering, of Crystallography, and of Nuclear Reactors. In the Joint Institute of Nuclear Research in Dubna are working permanently on the average 20 scientists from Swierk. Polish apparatus for intrareactor measurements was tested in the USSR at the Novovoronezh Nuclear Power Station.

A great part is assigned to Soviet-Polish cooperation in the long-range plans of the Institute. In summer, there will be put here into operation a research reactor

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"Maria," first for 30 and soon after for 60 megawatt. It will be one of the biggest in the socialist countries. Alexander Cizek, has recently returned from Moscow, where he successfully conducted negotiations for acceleration, by three-to-four months, of deliveries of the equipment for the reactor, and with satisfaction quotes this as a typical example characterizing the atmosphere of the Polish-Soviet scientific cooperation.

Before us is one more large-scale joint undertaking. For 1976-1980 is being planned the building and putting into operation of a powerful cyclotron for a future center of Polish science in Warsaw. It has been decided to build this cyclotron on the basis of a Soviet design. Enterprises of the Soviet Union will deliver a sizable part of equipment for the biggest scientific research instrument of Polish Nuclear Physics.

Meanwhile, the chemists of the Moscow Institute imeni Mendeleev had already made their contribution to the development of the Krakow Academy of Mining and Metallurgy, even though they did not know it. In speaking before the popularizers of science from a number of European countries about the activities of his Research Institute, forming part of the Academy, Jerzy Grzymek emphasized that in selecting the profile of the

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Institute, when it was to be created in 1950, it had been deliberately patterned after the Moscow Order of Lenin Institute of Chemical Technology imeni D. I. Mendeleev.

It appears that not only the direction of selection had been correct but also the idea itself has been realized in a masterly fashion. The Institute has already graduated over 100 doctors of sciences and docents and over 1,500 engineers. It has to its credit many fruitful results of research in the field of processing mineral raw materials and production of building materials. The scourge of the steam electric stations -- dust -- which is being formed in immense quantities in the burning of fuel, the scientists of Krakow succeeded in transforming it into a light insulation filler for constructions, adding to it clay and some industrial waste. The use of calcium oxide as a base for refractory materials was both unexpected and promising. Window glass coated in a Krakow way does not let pass infrared rays, and sometimes is indispensable to make houses comfortable.

But most of all one takes pride here in the priority method of the production of aluminum from nonbauxite raw materials, viz, from aluminosilicates which are highly widespread. Utilizing the well known phenomenon of polymorphism (when minerals are analogous in their chemical structure but differ in their physical properties), the Krakow specialists have learned, by rapid cooling and chemical action, to easily

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destroy and comminute them. As a result of their further processing, alumina is obtained and "waste" is transformed into portland cement. The absence of waste, and cheap and easily available noncritical starting material, are the advantages of this new technology. The Plant in Gruszowice has tested it in action and produced 50,000 tons of aluminum and 600,000 tons of portland cement. At present near Kielce a plant with twice as much output is under construction.

The technology of Prof Grzymek came into being and took roots not lightly. It had, and it seems it also has at present, rather intractable opponents. Discussions lasted for many years. The gay and good-natured professor carried it on with patience and persistence of a seasoned soldier, having behind him a hard training of guerilla warfare. At the same time there has been and is being conducted at present persistent research, which has brought about promising results. The hardiness of a fighter and talentedness of a researcher have won.

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12. ROMANIA

PROFETA, A., chief editor of Munchitorul Sanitar (Bucharest)

"Romania Improves the Health of the People"

Moscow, Meditsinskaya Gazeta, 22 Aug 73, p 4

Translation: Tomorrow is 23 August, a national holiday of the Romanian people, Liberation Day (1944). At the request, of the editorial board of "Meditsinskaya Gazeta," the chief editor of the newspaper for Romanian medical workers Munchitorul Sanitar, A. Profeta discussed present day Romanian health care.

About three decades have passed since the historic event of August 1944. Romania has made truly immeasurable steps forward. The magnificent program for the construction and thorough development of socialist society outlined by the 10th Congress of the Romanian Communist Party is being successfully implemented.

The continuous development of the economy and the growth of national income permit the state to increase allocations to health care. In 1972 the state budget spent 7.8 billion ley on public health care. That is 12 times more than in 1950. Today Romania has 4 times as many main clinics as in 1938, 11 times as many outpatient clinics, and 5 times as many hospital beds. What is more, the majority of them are concentrated in 1/4

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new or modernized treatment and prevention institutions. More than 32,000 doctors are working in hospitals and scientific research and educational institutions. In 1938 there were less than 8,000 doctors.

As a result of the thorough analysis of the state of the Romanian population's health conducted by the Central Committee of the Romanian Communist Party, the organization of health care has assumed new forms and content. This is characterized by an expanded tendency towards preventive health, the increased quality of medical help, and the equilization of health care standards in various zones and areas of the nation.

Party directives are the basis for an extensive, scientifically grounded program for improving medical care. Thanks to the continuous growth of the public's standards of living, the increased quality of medical care, and preventive measures, the population's state of health is improving from year to year. A number of diseases have been eliminated which in the past were widespread and others are only found in isolated places. In 1972 infant mortality reached the lowest level in the history of the nation, it was one third the level of 1938. The average life expectancy has increased and now is about 70 years.

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Following the general progress in science Romanian medicine is continually introducing modern methods of research and treatment, solving problems involving new conditions of labor and life, based on the requirements of the population and on increasing its material and cultural living standards.

The development of a network of modern hospitals combined with outpatient clinics at all administrative centers of the nation and their equipment with modern devices and effective medicines is underway. In addition, diligent efforts are being made to solve the problem of medical assistance in the home and research is underway on methods of solving the social problems involved with having a member of the family suffering extended chronic illness.

Activities in the integration of teaching in higher medical schools, the expansion and intensification of scientific research, and the improvement of doctors' practical work are three great problems, the solution of which will determine the success of public health. Special concern is given to the continuous improvement of the training, specialization and skill updating of medical personnel as well as to their proper utilization.

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Sanitary education for the public is assuming ever greater scales. Extensive measures, in which not only medical personnel but also the public participate, have the goal of not only informing the population but also giving every citizen a feeling of individual and collective responsibility for the state of health of society.

The decisions of the 10th Congress of the Romanian Communist Party in the area of health care are being successfully implemented. In addition to health care organizations all management and social organizations in our nation are participating in this work. Their sole goal is concern for the health of the Romanian people the builders of a thoroughly developed socialist society.

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